

# AZEOTROPIC DATA-II

Editorial Library  
American Chemical Society

Compiled by LEE H. HORSLEY  
The Dow Chemical Co.  
Midland, Mich.

With the cooperation of WILLIAM S. TAMPLIN  
Union Carbide Chemicals Co.  
South Charleston, W. Va.



**Number 35**

**ADVANCES IN CHEMISTRY SERIES**

American Chemical Society  
Washington, D. C.

1962

Copyright © 1962  
AMERICAN CHEMICAL SOCIETY  
*All Rights Reserved*

Library of Congress Catalog Card 52-3085

PRINTED IN THE UNITED STATES OF AMERICA

# ADVANCES IN CHEMISTRY SERIES

**Robert F. Gould, Editor**

**AMERICAN CHEMICAL SOCIETY APPLIED PUBLICATIONS**

## **ADVISORY BOARD**

**Allen L. Alexander  
John H. Fletcher  
Wayne W. Hilty  
Walter C. Saeman**

**William J. Sparks  
Calvin L. Stevens  
Glenn E. Ullyot  
Calvin A. VanderWerf**

**George W. Watt**

# INTRODUCTION

This volume is a supplement to "Azeotropic Data" published as ADVANCES IN CHEMISTRY SERIES No. 6, American Chemical Society (1952).

It includes revised data on systems in the original table plus new data on azeotropes, nonazeotropes, and vapor-liquid equilibria collected since 1952. No attempt has been made to evaluate the data. Where appreciable differences occur in data from different sources, more than one set of data is recorded. Where minor differences occur, only one set of data is recorded, but all references are cited.

A brief description is included for calculating azeotropic data for immiscible systems from vapor pressure data.

In general data have been obtained from the original literature. Where the original literature was not available, data have been taken from *Chemical Abstracts*. In a few instances, data have been taken from collections of azeotropic data in handbooks, review articles, and so forth.

Acknowledgment is made to Commercial Solvents Corp., The Dow Chemical Co., Eastman Chemical Products Inc., Farbenwerke Hoechst, Imperial Chemical Industries Limited, Minnesota Mining and Manufacturing Co., and Union Carbide Chemicals Co. for supplying unpublished data for inclusion in the tables.

The tables are arranged in the same manner as the previous volume. This is based on empirical formula as in *Chemical Abstracts* except that all inorganic compounds are listed first, alphabetically by empirical formula.

For a given binary system the lower order component according to empirical formula is chosen as the A-component and under each A-component the B-components are also arranged according to empirical formula. For ternary and quarternary systems the same arrangement is used, using the lowest order formula as A-component, the next lowest order as B-component, and so on.

With a few exceptions for common chemical names, nomenclature in the tables follows the *Chemical Abstracts* nomenclature system.

## Abbreviations

max. b.p.	Maximum boiling point azeotrope (negative azeotrope)
min. b.p.	Minimum boiling point azeotrope (positive azeotrope)
atm.	Pressure in standard atmospheres
mm.	Pressure in millimeters of Hg
p.s.i.a.	Pressure in pounds per square inch absolute
p.s.i.g.	Pressure in pounds per square inch gage
v-l.	Vapor-liquid equilibrium data are given in the original reference
v.p.	Vapor pressure
vol. %	Azeotropic concentration is given in volume per cent. Unless so indicated, all concentration data are in weight %
~	Approximate
>, <	Greater than, less than

## Corrections for Azeotropic Data—I

The following errors appeared in "Azeotropic Data," ADVANCES IN CHEMISTRY SERIES No. 6.

*Page      System*

4	65	Replace A-component, thionyl chloride, with sulfonyl chloride.
6	131	Azeotropic composition is 7.9 wt. %. This is an error in the original reference.
7	176	Formula should be $C_3H_7NO_3$ .
8	240	Replace 57% with 43% for azeotropic composition.
9	281	This system should follow system 277.
10	306	Replace "cyclohexane" with "cyclohexene."
13	482	Replace 6.32 by -6.32 for b.p. of methylamine.
19	834-835	A-component formula is $CHBr_3$ .
23	1059-1060	Between systems 1059 and 1060 insert: A = $CH_2I_2$ Diiodomethane b. 181°C.
28	1389	Replace 59.05 with 49.05 for azeotropic b.p.
33	1696	A-component formula is $C_2HBrCl_2$ .
83	4708-4709	Replace 43.6 with 38 for A-component b.p.
114	6546	Replace 11 with 154.5 for azeotropic b.p.
123		Between system 7090 and 7091, omit: A = $C_4H_9I$ 1-Iodo-2-methyl propane.
149	8651	Replace reference 244 with 243.
154	8920	Replace $C_7H_{16}O_4$ , 2-[2-(2-methoxyethoxy)ethoxy]-ethanol, with $C_8H_{14}O_3$ , 2-(2-ethoxyethoxy)ethanol, and insert after system 8909.
251	14519	% B-component should be 93.4%.
257	14658	% A-component should be 8.5%.
267		Formula $Cl_2O_2S$ . Replace thionyl chloride with sulfonyl chloride.
284		Under $C_6H_6O_2$ , pyrocatechol, replace system 3510 with 3570.
296		Formula $C_8H_{18}$ . Replace 3-ethylheptane with 3-methylheptane.

## Calculation of Azeotropic Data for Immiscible Systems

There are many binary heterogeneous azeotropes which are not listed in the literature because the azeotropic data can readily be calculated from the vapor pressure data of the components.

For a mixture of two completely immiscible liquids the total vapor pressure is equal to the sum of the vapor pressures of the two components at a given temperature. Therefore, from a plot of the vapor pressures of the two components, it is possible to determine the temperature at which the sum of the vapor pressures is equal to 760 mm. This temperature is the azeotropic boiling point of the system at 760 mm. The boiling point at any other pressure can be obtained in a similar manner.

Further, the azeotropic composition can be calculated from the expression

$$\text{Mole \% A} = \frac{V_A \times 100}{V_A + V_B}$$

$V_A$  = vapor pressure of component A

$V_B$  = vapor pressure of component B



**Table I. Binary Systems**

	No.	Formula	B-Component		Azeotropic Data		
			Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
<b>A =</b>	1	<b>A</b> $O_2$	<b>Argon</b> Oxygen	<b>-186</b>			
			1-15 atm.	-183	Nonazeotrope	v-1	71
			90°-96°K.	...	...	v-1	232
<b>A =</b>	2	$C_5F_{12}$	Perfluoropentane, 25°C.	...	Nonazeotrope	v-1	340
						v-1	237
<b>A =</b>	3	$AsCl_3$ $GeCl_4$	<b>Arsenic Chloride</b> Germanium chloride	<b>130</b> 86.5	Nonazeotrope	v-1	298
<b>A =</b>	4	$BeF_2$ $FNa$	<b>Beryllium Fluoride</b> Sodium fluoride, 509°-1061° C.	...		v-1	299
<b>A =</b>	5	$B_2H_6$ $C_4H_{10}O$	<b>Diborane</b> Ethyl ether, 25-100 p.s.i.g.	...	Nonazeotrope	v-1	206
<b>A =</b>	6	$BrF_3$ $BrF_5$	<b>Bromine Trifluoride</b> Bromine pentafluoride	<b>135</b>	Nonazeotrope	v-1	200
	7	$Br_2$	Bromine, 1760 mm. " 3800 mm.	75 100	84.4 81.5	v-1	101
	8	FH	Hydrogen fluoride	19.4	Azeotropic		91
	9	$F_6U$	Uranium hexafluoride	56	Nonazeotrope		91
<b>A =</b>	10	$BrF_5$ FH	<b>Bromine Pentafluoride</b> Hydrogen fluoride " 4 atm.	19.4 ...	20 ...	56 79	4,91 91
	11	$F_6U$	Uranium hexafluoride " 3 atm. " 70° " 90° " 100 p.s.i.a.	56 ...	Min. b.p. ...	82 Nonazeotrope Nonazeotrope 62.5	91 v-1 203 v-1 203 v-1 203 91
<b>A =</b>	12	$Br_2$ FH	<b>Bromine</b> Hydrogen fluoride	<b>58.9</b> 19.4			
	13	$F_6U$	Uranium hexafluoride	56	Azeotropic		91
	14	$CCl_4$	Carbon tetrachloride, 736 mm.	76	57.7	89.1	v-1 311
	15	$C_2Cl_3F_3$	1,1,2-Trichloro-1,2, 2-trifluoroethane	47.6	41	40.8	v-1 312
	16	$C_2Cl_4F_2$	1,1,1,2-Tetrachloro- 2,2-difluoroethane	91.6	57.8	89.5	v-1 312
	17	$C_2HCl_3F_2$	1,2,2-Trichloro-1,1- difluoroethane, 736 mm.	71.1	54.1	73.5	v-1 313
	18	$C_2H_2Cl_2F_2$	1,1-Dichloro-2,2- difluoroethane, 735 mm.	59	49.6	62	v-1 313
	19	$C_3Cl_3F_5$	1,2,2-Trichloro-1,1, 3,3,3-pentafluoro- propane	72.5	49.1	60.5	v-1 312
	20	$C_7H_5F_3$	$\alpha, \alpha$ -Trifluorotoluene	103.9	58.1	97	v-1 312
<b>A =</b>	21	$Br_3P$ $C_nH_{2n+2}$	<b>Phosphorus Tribromide</b> Paraffin hydrocarbons	<b>175.3</b> ...	Min. b.p.		234

No.	Formula	Name	B.P., °C.	Azeotropic Data			
				B.P., °C.	Wt.%A	Ref.	
A =	$\text{CO}_2$	Carbon Dioxide	-78.5				
	22 $\text{H}_2\text{S}$	Hydrogen sulfide, 20-80 atm.	-59.6	Nonazeotrope	v-1	16, 17	
	23 $\text{N}_2\text{O}$	Nitrous oxide	-90.7	Min. b.p.	v-1	293	
	24 $\text{C}_2\text{H}_2$	Acetylene	-84	Nonazeotrope	v-1	293	
		" Crit. press.	...	Nonazeotrope	v-1	293	
	25 $\text{C}_2\text{H}_4$	Ethylene, <4 atm.	...	Nonazeotrope	v-1	293	
		" 12 atm.	...	28.9	v-1	293	
		" Crit. press.	...	51	v-1	293	
	26 $\text{C}_2\text{H}_6$	Ethane	-88.6	...	59.5	v-1	293
		" Crit. press.	...	77.5	v-1	293	
A =	$\text{ClF}_3$	Chlorine Trifluoride					
	27 $\text{ClH}$	Hydrogen chloride	-85	Reacts		4	
	28 $\text{FH}$	Hydrogen fluoride	19.4	Azeotropic		91	
		" 1183 mm.	...	20	93	v-1	
		" 90 p.s.i.g.	...	...	94.5	90	
		" 125 p.s.i.g.	...	...	94	91	
		" 143 p.s.i.g.	...	...	93.8	91	
		" 148 p.s.i.g.	...	...	93.7	91	
	29 $\text{F}_6\text{U}$	Uranium hexafluoride	56	Nonazeotrope	v-1	89, 91	
A =	$\text{ClH}$	Hydrogen Chloride	-85				
	30 $\text{Cl}_2$	Chlorine, 350 mm.	-44	Nonazeotrope		4	
	31 $\text{H}_2\text{O}$	Water, 100 p.s.i.g.	169	177	85.2	334	
		" 520 p.s.i.g.	244	250	93.5	334	
		" 860 p.s.i.g.	275	280	97.2	334	
		" 1360 p.s.i.g.	306	310	99.4	334	
		" 1815 p.s.i.g.	328	330	99.9	334	
	32 $\text{CH}_4\text{O}$	Methanol	64.7	Max. b.p.		76	
A =	$\text{Cl}_2$	Chlorine	-34.6				
	33 $\text{FH}$	Hydrogen fluoride, 350 mm.	3.0	-47	92	4	
		"	19.4	-35	...	4	
A =	$\text{Cl}_2\text{SO}_2$	Sulfuryl Chloride	69.1				
	34 $\text{CCl}_4$	Carbon tetrachloride	76.75	Nonazeotrope	v-1	338	
	35 $\text{C}_2\text{Cl}_6$	Hexachloroethane	184.8	Nonazeotrope	v-1	338	
	36 $\text{C}_2\text{H}_2\text{Cl}_4$	1,1,2,2,-Tetra- chloroethane	146.2	Nonazeotrope	v-1	338	
	37 $\text{C}_2\text{H}_4\text{Cl}_2$	1,2-Dichloroethane	83.45	Nonazeotrope	v-1	338	
A =	$\text{Cl}_3\text{HSi}$	Trichlorosilane					
	38 $\text{C}_6\text{H}_6$	Benzene, 30°-40° C.	...	Nonazeotrope, v.p. curve		302	
A =	$\text{Cl}_3\text{P}$	Phosphorus Trichloride	76				
	39 $\text{C}_6\text{H}_{12}$	Cyclohexane	80.75	Nonazeotrope		236	
	40 $\text{C}_6\text{H}_{14}$	Hexane	68.8	8 vol. %		234	
	41 $\text{C}_7\text{H}_{16}$	2,2-Dimethylpentane	79.1	Min. b.p.		234, 236	
	42 $\text{C}_7\text{H}_{16}$	2,3-Dimethylpentane	89.8	74.5	98.8 vol. %	234	
	43 $\text{C}_7\text{H}_{16}$	2,4-Dimethylpentane	80.5	74.2	73	234	
	44 $\text{C}_7\text{H}_{16}$	2,2,3-Trimethylbutane	80.9	74.5	77	234	
A =	$\text{Cl}_4\text{Si}$	Silicon Tetrachloride	57.6				
	45 $\text{CH}_3\text{SiCl}_3$	Methyl trichloro- silane, 20°-66°	...	Nonazeotrope, v.p. curve		179	
	46 $\text{CH}_4\text{SiCl}_2$	Methyl dichloro- silane, 20°-66°	...	Nonazeotrope, v.p. curve		179	
A =	$\text{Cl}_4\text{Sn}$	Tin Chloride	114.1				
	47 $\text{CCl}_4$	Carbon tetrachloride	76.8	Nonazeotrope	v-1	34	
	48 $\text{C}_8\text{H}_{18}$	n-Octane	125.7	Nonazeotrope	v-1	34	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
A =	$\text{Cl}_4\text{Ti}$ 49 $\text{C}_2\text{Cl}_4\text{O}$	Titanium Tetrachloride Trichloroacetyl chloride	146.2 118	Nonazeotrope	v-l	300
	50 $\text{C}_2\text{H}_2\text{Cl}_2\text{O}$ 51 $\text{C}_2\text{H}_2\text{Cl}_4$	Chloroacetyl chloride 1,1,2,2-Tetrachloroethane, 740 mm.	105 136.6	Nonazeotrope 135.4	v-l	300 32
A =	DH 52 $\text{D}_2$ 53 $\text{H}_2$	Deuterium Hydride Deuterium, 18°-28° K. Hydrogen, 18°-28° K.	- -249.7 -252.7	Nonazeotrope Nonazeotrope	v-l	238 238
A =	$\text{D}_2$ 54 $\text{H}_2$	Deuterium Hydrogen, 18°-28° K.	-249.7 -252.7	Nonazeotrope	v-l	238
A =	FH 55 $\text{F}_5\text{Sb}$ 56 $\text{F}_6\text{U}$	Hydrogen Fluoride Antimony pentafluoride Uranium hexafluoride " 85 p.s.i.g. " 110 p.s.i.g. " 132 p.s.i.g. " 145 p.s.i.g.	19.4 142.7 ... ... ... ... 150 p.s.i.g.	Nonazeotrope v-l	301 91 91 91 91 334	
	57 $\text{CCl}_2\text{F}_2$	Dichlorodifluoromethane,	48	39	7.5	
	58 $\text{CHClF}_2$	Chlorodifluoromethane " 70 p.s.i.g. " 150 p.s.i.g. " 230 p.s.i.g.	7 29 45	<7 24 36	3 2.7 2.8	334 334 334
	59 $\text{C}_2\text{HF}_3\text{O}_2$	Trifluoroacetic acid		Nonazeotrope	v-l	222
A =	$\text{F}_6\text{S}$ 60 $\text{C}_5\text{F}_{12}$	Sulfur Hexafluoride Perfluoropentane, 25° C.	-	Nonazeotrope	v-l	237
A =	$\text{F}_6\text{W}$ 61 $\text{C}_5\text{F}_{10}$	Tungsten Hexafluoride Perfluorocyclopentane "	25/1019; 45/1982 mm. 25/833 25/1035 45/1642 45/2010	85.4	v-l	288
	62 $\text{C}_5\text{F}_{12}$	Perfluoropentane, 1140 mm.	40.86	28.11	93.2	v-l
A =	$\text{HNO}_3$ 63 $\text{H}_2\text{O}$	Nitric Acid Water, 50 mm. " 100 mm. " 200 mm. " 400 mm. " 760 mm.	86 37 51.6 66.5 83.0 100	57.8 72.4 86.4 103.2 120.7	13.7 13.8 14.0 14.2 14.4	v-l v-l v-l v-l v-l
	64 $\text{CHCl}_3$	Chloroform	61	47.5	See also $\text{H}_2\text{O-N}_2\text{O}_5$ below 15	258
A =	$\text{H}_2\text{O}$ 65 $\text{H}_2\text{O}_2$ 66 $\text{H}_2\text{SO}_4$	Water Hydrogen peroxide Hydrogen sulfate " 200 mm.	100 ... ... ...	100 330	1.7 1.6	v-l 104 334 334
	67 $\text{H}_4\text{N}_2$	Hydrazine, 124.8 mm. " 281.8 mm. " 411.2 mm. " 560.4 mm. " 700.6 mm. " 760 mm.	66.8 86.5 96.8 105.2 111.7 113.8	74.2 93.3 103.6 111.3 117.6 120	33.2 32.3 31.0 31.4 32.6 32.3	v-l v-l v-l v-l v-l v-l
	68 $\text{N}_2\text{O}_5$	Nitrogen pentoxide "	...	Max. b.p. Min. b.p.	40 14.3	v-l 199
	69 $\text{CS}_2$ 70 $\text{CHCl}_3$ 71 $\text{CH}_2\text{O}_2$	Carbon disulfide Chloroform Formic acid, 40-760 mm. "	46.5 61 100.75	43.6 56.1 107.65	2 2.8 25.5	334 56 v-l 42 217, 360

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$\text{H}_2\text{O}$	Water (continued)	100				
72	$\text{CH}_3\text{NO}_2$	Nitromethane	101.2	83.59	23.6	54, 55	
73	$\text{CH}_3\text{O}$	Methanol	64.7	Nonazeotrope	v-1	68	
74	$\text{C}_2\text{Cl}_3\text{F}_3$	1,1,2-Trichlorotri-fluoroethane	47.5	44.5	1.0	334	
75	$\text{C}_2\text{Cl}_4$	Tetrachloroethylene	121	88.5	17.2	334	
		"	121	87.7	15.8	170	
76	$\text{C}_2\text{HF}_3\text{O}_2$	Trifluoroacetic acid	...	105	21	222	
77	$\text{C}_2\text{H}_3\text{Cl}_2\text{NO}_2$	Methyl $\text{N},\text{N}$ -dichloro-carbamate	...	93	50 vol. %	39	
78	$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,2-Trichloro-ethane	113.8	86.0	16.4	334	
79	$\text{C}_2\text{H}_3\text{N}$	Acetonitrile, 10 mm.	-15	<16	2.6	336	
	"	50 mm.	13	<12	5.8	336	
	"	760 mm.	80.1	76.5	16.3	336	
80	$\text{C}_2\text{H}_4\text{Cl}_2$	1,2-Dichloroethane	83.5	71.6	8.2	334	
	"		...	75.5	8.2	55	
	"	150 mm.	...	33.5	4.9	55	
	"	75 mm.	...	19.0	4.9	55	
81	$\text{C}_2\text{H}_4\text{O}_2$	Acetic acid	118.1	Nonazeotrope	v-1	56	
82	$\text{C}_2\text{H}_5\text{BrO}$	2-Bromoethanol, 150 mm.	100	58	55.7	76	
83	$\text{C}_2\text{H}_5\text{ClO}$	2-Chloroethanol, 50 mm.	60	37.1	60.2	334	
	"	100 mm.	75	51.1	59.3	334	
84	$\text{C}_2\text{H}_5\text{NO}_2$	Nitroethane	114.07	87.22	28.5	54, 55	
85	$\text{C}_2\text{H}_6\text{O}$	Ethyl alcohol, 150°-350° C.	...	...	...	v-1	14
	"	250-2500 mm.	...	...	...	v-1	251
86	$\text{C}_2\text{H}_6\text{O}_2$	Ethylene glycol, 76-760 mm.	...	Nonazeotrope	v-1	60	
87	$\text{C}_2\text{H}_7\text{NO}$	2-Aminoethanol	170.5	Nonazeotrope	334		
	"	100 mm.	112	Nonazeotrope	334		
88	$\text{C}_2\text{H}_8\text{N}_2$	1,1-Dimethylhydra-zine, 102 mm.	...	Max. b.p.	82.5	37	
	"	"	...	Nonazeotrope	37		
89	$\text{C}_2\text{H}_8\text{N}_2$	1,2-Ethylenediamine	116	...	18.0	v-1	76
	"	>3400 mm.	...	Nonazeotrope	76		
	"		116.9	119	18.4	334	
90	$\text{C}_3\text{HF}_5\text{O}_2$	Pentafluoropropionic acid	...	109	10	222	
91	$\text{C}_3\text{H}_3\text{N}$	Acrylonitrile	77.2	70.6	14.3	334	
92	$\text{C}_3\text{H}_3\text{NS}$	Thiazole, 695.5 mm.	...	90	34.8	v-1	219
	"	750 mm.	111.5	92.1	35.3	v-1	219
93	$\text{C}_3\text{H}_4\text{O}$	Acrolein	52.8	52.4	2.6	334	
94	$\text{C}_3\text{H}_4\text{O}$	2-Propyn-1-ol	115	97	54.5	95	
95	$\text{C}_3\text{H}_4\text{O}_2$	Acrylic acid	141.2	Nonazeotrope	334		
96	$\text{C}_3\text{H}_4\text{O}_3$	Ethylene carbonate	...	Nonazeotrope	334		
97	$\text{C}_3\text{H}_5\text{Cl}$	3-Chloropropene	44.9	43.0	2.2	334	
98	$\text{C}_3\text{H}_5\text{Cl}$	Methylvinyl chloride	...	33	0.9	334	
99	$\text{C}_3\text{H}_5\text{NO}$	Hydracrylonitrile	229.7	Nonazeotrope	334		
100	$\text{C}_3\text{H}_6\text{Cl}_2\text{O}$	2,3-Dichloro-1-propanol	183.8	99.4	87	334	
	"	50 p.s.i.a.	56.1	Nonazeotrope	v-1	254	
	"	100 p.s.i.a.	...	Nonazeotrope	v-1	254	
	"	200 p.s.i.a.	...	125.4	5.2	v-1	254
	"	250 p.s.i.a.	...	157.6	7.2	v-1	254
	"	500 p.s.i.a.	...	168.4	9.4	v-1	254
102	$\text{C}_3\text{H}_6\text{O}$	Allyl alcohol, 752 mm.	96.90	...	...	v-1	130
103	$\text{C}_3\text{H}_6\text{O}$	Propionaldehyde	47.9	47.5	2	334	
	"		...	47.5	2.5	84	
104	$\text{C}_3\text{H}_6\text{O}$	Propylene oxide	35	Nonazeotrope	v-1	60	
105	$\text{C}_3\text{H}_6\text{O}_2$	1,3-Dioxolane	75.6	71.9	7	334	
106	$\text{C}_3\text{H}_6\text{O}_2$	Ethyl formate	54.2	52.6	5	334	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
107	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	2-Methoxyacetaldehyde, 770 mm.	92	88.5	12.8	77	
108	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate, <10 p.s.i.a.	...	56.1	5	131	
		" 265 mm.	56.3	30	1.5	334	
109	C <sub>3</sub> H <sub>7</sub> Cl	1-Chloropropane	46.6	44	2.2	334	
110	C <sub>3</sub> H <sub>7</sub> Cl	2-Chloropropane	36.5	35.0	1	334	
111	C <sub>3</sub> H <sub>7</sub> NO	Dimethylformamide, 500 mm.	138	Nonazeotrope	334		
		" 200-760 mm.	...	Nonazeotrope	v-l	319	
112	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	1-Nitropropane	131.18	91.63	36.5	54, 55	
113	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	2-Nitropropane	120.25	88.55	29.4	54, 55	
114	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol, 47 mm.	...	...	31.8	117	
		" 200 mm.	56.68	29.6	v-l	228,	
		" 400 mm.	...	71.92	29.0	306	
		" 600 mm.	...	81.68	28.5	v-l	306
		"	...	87.65	28.3	v-l	306
		"	In 1.5M CaCl <sub>2</sub> Solution	v-l	72		
115	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol, 95 mm.	...	36	13	v-l	347
		" 190 mm.	...	49.33	12.8	v-l	347
		" 380 mm.	...	63.90	12.6	v-l	347
		" 760 mm.	82.5	80.10	12.0	v-l	347
		" 3087 mm.	...	120.45	11.7	v-l	347
		" 150°-300° C.	...	v-l	14		
		"	...	Evaporation data	196		
		"	Effect of dissolved salt	v-l	265		
116	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol, 100 mm.	...	51.5	80.5	v-l	152
		" 752 mm.	...	99.2	81	v-l	152
		" 150 mm.	79.2	Nonazeotrope	334		
		" 760 mm.	124.6	99.9	84.7	334	
		" 100 p.s.i.g.	212	169	73.3	334	
117	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	1,2-Propanediol	188	Nonazeotrope	v-l	60	
118	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	1,3-Propanediol	214.8	Nonazeotrope	v-l	334	
119	C <sub>3</sub> H <sub>9</sub> N	Propylamine	47.8	Nonazeotrope	334		
120	C <sub>3</sub> H <sub>9</sub> N	Trimethylamine	3.2	75.5	10	v-l	148
		" 0°-100° C.	...	v-l	148		
121	C <sub>3</sub> H <sub>9</sub> NO	1-Amino-2-propanol	159.9	Nonazeotrope	334		
122	C <sub>4</sub> HF <sub>7</sub> O <sub>2</sub>	Perfluorobutyric acid	122.0	97	71	222	
123	C <sub>4</sub> H <sub>9</sub> N	3-Butenenitrile	118.9	89.4	34	334	
124	C <sub>4</sub> H <sub>9</sub> N	Methacrylonitrile	...	76.5	16	269	
125	C <sub>4</sub> H <sub>6</sub> ClN	2-Chloro-2-methyl-propionitrile	116	87	22	269	
126	C <sub>4</sub> H <sub>6</sub> O	Crotonaldehyde, 111 mm.	84.9	40	19	334	
		" 273 mm.	112.3	60	22	334	
		" 412 mm.	126.4	70	23	334	
		"	102.4	84	24.8	96,	
						142,	334
127	C <sub>4</sub> H <sub>6</sub> O	Methacrylaldehyde	68.0	63.6	7.7	269,	334
128	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	3-Butenoic acid	...	Nonazeotrope	334		
129	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	trans-Crotonic acid	185	Nonazeotrope	334		
130	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Crotonic acid	...	99.9	97.8	84	
131	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Butyrolactone	204.3	Nonazeotrope	334		
132	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Vinyl acetate	72.7	66	7.3	334	
133	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	Propylene carbonate	242.1	Nonazeotrope	334		
134	C <sub>4</sub> H <sub>7</sub> ClO	2-Chloroethyl vinyl ether	109.1	84	17	334	
135	C <sub>4</sub> H <sub>7</sub> N	Butyronitrile	117.6	88.7	32.5	334	
136	C <sub>4</sub> H <sub>7</sub> NO	2-Hydroxyisobutyronitrile, 30 mm.	...	Nonazeotrope	334		
		" 50 mm.	...	Nonazeotrope	334		

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$\text{H}_2\text{O}$	Water (continued)	100				
137	$\text{C}_4\text{H}_8\text{Cl}_2\text{O}$	Bis(2-chloroethyl) ether	179.2	98	65.5	334	
138	$\text{C}_4\text{H}_8\text{O}$	2-Butanone	79.6	73.4	11.0	78	
	"	3.5 p.s.i.g.	...	79.3	12.1	78	
	"	9.2 p.s.i.g.	...	88.0	12.5	78	
	"	30 p.s.i.g.	...	111	15.8	78	
	"	60 p.s.i.g.	...	125	18.3	78	
	"	14.7 p.s.i.a.	...	73.3	11.6	v-1	254
	"	50 p.s.i.a.	...	112.2	15.9		254
	"	100 p.s.i.a.	...	139.0	19.3		254
	"	250 p.s.i.a.	...	180.7	23.4		254
	"	500 p.s.i.a.	...	216.1	26.4		254
	"				Evaporation behavior		196
139	$\text{C}_4\text{H}_8\text{O}$	Butyraldehyde	74.8	68.0	9.7	334	
	"		...	67.8	6.7	84	
140	$\text{C}_4\text{H}_8\text{O}$	Ethyl vinyl ether	35.5	34.6	1.5	334	
141	$\text{C}_4\text{H}_8\text{O}$	Isobutyraldehyde	63.5	64.3	6.7	84	
142	$\text{C}_4\text{H}_8\text{O}$	Methyl propenyl ether	46.3	46.3	0.5	334	
143	$\text{C}_4\text{H}_8\text{OS}$	2-Methylthiopropionaldehyde, 85 mm.	...	48	64	76	
	"	412 mm.	...	82	60	76	
	"	753 mm.	...	97.5	68	76	
	"	759 mm.	...	97.5	63	76	
144	$\text{C}_4\text{H}_8\text{OS}$	1,4-Oxathiane	149.2	95.6	48	334	
145	$\text{C}_4\text{H}_8\text{O}_2$	<u>p</u> -Dioxane	Effect of dissolved salt		v-1	265	
	"	260 mm.	...	60	15.4	60	
146	$\text{C}_4\text{H}_8\text{O}_2$	Ethoxyacetaldehyde	105	90	21.8	77	
147	$\text{C}_4\text{H}_8\text{O}_2$	2-Hydroxybutyraldehyde, 80 mm.	...		Nonazeotrope	334	
148	$\text{C}_4\text{H}_8\text{O}_2$	Isobutyric acid	154.5	98.8	71.8	84	
149	$\text{C}_4\text{H}_8\text{O}_2$	3-Methoxypropionaldehyde, 100 mm.	...	45	30	334	
150	$\text{C}_4\text{H}_8\text{O}_2$	2-Methyl-1,3-dioxolane	82.5	75	8	76	
151	$\text{C}_4\text{H}_8\text{O}_2$	Methyl propionate	79.7	71.0	8.2	84	
152	$\text{C}_4\text{H}_8\text{O}_2$	2-Vinylxyethanol	143	98	65	94	
153	$\text{C}_4\text{H}_9\text{NO}$	Morpholine	128.3		Nonazeotrope	334	
154	$\text{C}_4\text{H}_9\text{NO}_2$	N-(2-Hydroxyethyl)acetamide	...		Nonazeotrope	334	
155	$\text{C}_4\text{H}_{10}\text{O}$	Butyl alcohol	...		Evaporation behavior	196	
	"	250-2500 mm.	...	...	...	v-1	251
	"	30 mm.	48	28	52.4	335	
156	$\text{C}_4\text{H}_{10}\text{O}$	<u>sec</u> -Butyl alcohol	99.5	87.0	26.8	v-1	352
	"		...	88.5	32		334
	"	20 mm.	27.3	16.0	32.2		147
157	$\text{C}_4\text{H}_{10}\text{O}$	Ethyl ether, 20 p.s.i.g.	62	60	2.0	334	
158	$\text{C}_4\text{H}_{10}\text{O}$	Isobutyl alcohol, 745 mm.	...	...	...	v-1	335
159	$\text{C}_4\text{H}_{10}\text{O}_2$	1,2-Dimethoxyethane, 100 mm.	35	...	6	9	
	"		85.2	...	10.4		9
	"		85	77.4	10.1		76
160	$\text{C}_4\text{H}_{10}\text{O}_2$	2-Ethoxyethanol, <100 mm.	...		Nonazeotrope		18
	"	200 mm.	...	66.4	70	v-1	18
	"	400 mm.	...	82.4	79	v-1	18
	"		134	98.2	87	v-1	18
	"	200 mm.	96.5	66.4	85		334
	"	400 mm.	115.6	82.4	76		334
	"		135.6	99.4	71.2		334
161	$\text{C}_4\text{H}_{10}\text{O}_3$	Diethylene glycol, 10 mm.	...		Nonazeotrope	v-1	60
	"		...		Nonazeotrope	v-1	60
162	$\text{C}_4\text{H}_{11}\text{N}$	Butylamine, 575 mm.	69	69	1.3	334	
	"	20 p.s.i.g.	106	-	6.5		334

TABLE I BINARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>			
163	C <sub>4</sub> H <sub>11</sub> N	Diethylamine	55.5	Effect of NaOH on v-l		150
	"			Nonazeotrope	v-l	149, 334
164	C <sub>4</sub> H <sub>11</sub> NO	2-Dimethylamino-ethanol, 27 p.s.i.g.	174	-	90.2	334
	"	744 mm.	133.9	99	92.6	334
	"	540 mm.	123.4	91	95.2	334
	"	250 mm.	100.7	71	98.2	334
165	C <sub>4</sub> H <sub>11</sub> NO <sub>2</sub>	2,2'-Iminodiethanol	...	Nonazeotrope		334
166	C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde, 1-18 atm.	161.7	-	-	v-l 216
167	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.3	93.6	41.3	147
	"	120 mm.	...	-	46.2	117
	"	758 mm.	...	-	40.5	117
	"	>760 mm.	...	30	40.7	v-l 146
	"	>760 mm.	...	50	-	146
	"	>760 mm.	...	80	40.7	146, 360
				Effect of dissolved salt	v-l	265
168	C <sub>5</sub> H <sub>6</sub> N <sub>2</sub>	2-Methylpyrazine, 737 mm.	133	97	55	351
	"		130	92.6	36 vol. %	279
169	C <sub>5</sub> H <sub>6</sub> O	2-Methylfuran, 740 mm.	62.7	57.3	3.4	v-l 310
170	C <sub>5</sub> H <sub>7</sub> N	3-Methyl-3-butene-nitrile	137.0	93.0	43.2	334
171	C <sub>5</sub> H <sub>8</sub> O	Allyl vinyl ether	67.4	60	5.4	334
172	C <sub>5</sub> H <sub>8</sub> O	Cyclopentanone	130.8	94.6	42.4	v-l 334
	"	740 mm.	130	92.6	36 vol. %	279
173	C <sub>5</sub> H <sub>8</sub> O	1-Methoxy-1,3-butadiene	90.7	76.2	12.7	334
174	C <sub>5</sub> H <sub>8</sub> O	3-Penten-2-one	123.5	92	28.6	334
175	C <sub>5</sub> H <sub>8</sub> O	3-Methyl-3-butene-2-one	97.9	81.5	18.4	334
176	C <sub>5</sub> H <sub>8</sub> O	4-Pentenal	106	84.3	21	334
177	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Allyl acetate	104.1	83	16.7	334
178	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acrylate	99.5	81.1	15	283
	"	195 mm.	61	48	12	334
179	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Isopropenyl acetate, 200 mm.	60.2	48	11	334
	"		97.4	79.3	13.4	334
180	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Methyl methacrylate	100.8	83	14	283
181	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	2,4-Pentanedione	140.6	94.4	41	334
182	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Δ-Valerolactone	...	Nonazeotrope		334
183	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Vinyl propionate	95.0	79	13	334
184	C <sub>5</sub> H <sub>10</sub> Cl <sub>2</sub> O <sub>2</sub>	Bis(2-chloroethoxy)methane	218.1	99.4	86.8	334
185	C <sub>5</sub> H <sub>10</sub> N <sub>2</sub>	3-Dimethylamino-propionitrile	174.5	99.6	84	334
186	C <sub>5</sub> H <sub>10</sub> O	cis-1-Butenyl methyl ether	72.0	64	6.1	334
187	C <sub>5</sub> H <sub>10</sub> O	trans-1-Butenyl methyl ether	76.7	67	7.2	334
188	C <sub>5</sub> H <sub>10</sub> O	Isopropenyl ethyl ether	61.9	58	2	334
189	C <sub>5</sub> H <sub>10</sub> O	Isopropyl vinyl ether	55.7	51.8	2.7	334
190	C <sub>5</sub> H <sub>10</sub> O	Propyl vinyl ether	65.1	59	5	334
191	C <sub>5</sub> H <sub>10</sub> O	Tetrahydropyran	88	71	8.5	82
192	C <sub>5</sub> H <sub>10</sub> O	Valeraldehyde	103.3	83	19	334
193	C <sub>5</sub> H <sub>10</sub> O	Valeraldehydes (isomers)	98.6	80	17	334
194	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Ethyl propionate, 350 mm.	76.0	61	13.3	334
195	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	3-Methoxybutyraldehyde, 100 mm.	...	50	37	334
	"	200 mm.	...	64	37	334
	"		131	>92	35	334

No.	Formula	B-Component		Azeotropic Data			
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
196	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Propyl acetate, 200-700 mm.	...				
197	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Valeric acid	185.5	99.8	89	334	
198	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Valeric acid (isomers)	183.2	99.6	85	334	
199	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	1-Vinylxylo-2-propanol	...	~100	75	94	
200	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	3-Vinylxylo-1-propanol	...	~100	75	94	
201	C <sub>5</sub> H <sub>10</sub> O <sub>3</sub>	3-Ethoxypropionic acid	219.2	Nonazeotrope		334	
202	C <sub>5</sub> H <sub>10</sub> O <sub>3</sub>	3-Methoxybutyric acid	...	Nonazeotrope		334	
203	C <sub>5</sub> H <sub>10</sub> O <sub>3</sub>	Methoxymethyl propio- nate	...	95	56	334	
204	C <sub>5</sub> H <sub>11</sub> NO	4-Methylmorpholine	115.6	94.2	24	334	
205	C <sub>5</sub> H <sub>12</sub>	Pentane	36.1	34.6	1.4	334	
206	C <sub>5</sub> H <sub>12</sub> N <sub>2</sub>	1-Methylpiperazine	138.0	Nonazeotrope		334	
207	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub>	1,2-Dimethoxypropane	92	80	11	334	
208	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub>	1-Ethoxy-2-propanol	132.2	97.3	50.1	334	
209	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub>	3-Methoxy-1-butanol	161.1	98.5	80	334	
210	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub>	1,5-Pentanediol	242.5	Nonazeotrope		334	
211	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub>	2-Propoxyethanol	151.5	98.8	70	334	
212	C <sub>5</sub> H <sub>13</sub> N	N-Methylbutylamine	91.1	82.7	15	334	
213	C <sub>5</sub> H <sub>13</sub> NO	1-Ethylamino-2- propanol	159.4	Nonazeotrope		334	
214	C <sub>5</sub> H <sub>14</sub> N <sub>2</sub>	N,N-Dimethyl-1,3- propanediamine	134.9	Nonazeotrope		334	
215	C <sub>6</sub> H <sub>7</sub> N	Aniline, 742 mm.	...	98.6	80.8	v-1	143
		" 6 atm.	...	155	76.6	v-1	143
		" 11 atm.	...	182	76.2	v-1	143
		" 16.4 atm.	...	200	77.4	v-1	143
216	C <sub>6</sub> H <sub>7</sub> N	3-Picoline	144.1	97	60	v-1	365
217	C <sub>6</sub> H <sub>7</sub> N	4-Picoline	144.3	97.35	62.8	v-1	365
		"	...	97.4	63.5		334
218	C <sub>6</sub> H <sub>8</sub> N <sub>2</sub>	2,5-Dimethylpyrazine	154	98.5	65		351
219	C <sub>6</sub> H <sub>8</sub> O	2,5-Dimethylfuran	93.3	77.0	11.7	334	
220	C <sub>6</sub> H <sub>8</sub> O	2,4-Hexadienol	171	98.0	70	334	
221	C <sub>6</sub> H <sub>8</sub> O <sub>2</sub>	1,3-Butadienyl acetate	138.5	93	35.6	334	
222	C <sub>6</sub> H <sub>8</sub> O <sub>2</sub>	Vinyl crotonate	133.9	92	31	334	
223	C <sub>6</sub> H <sub>9</sub> N <sub>3</sub>	3,3'-Iminodipropio- nitrile	...	Nonazeotrope		334	
224	C <sub>6</sub> H <sub>10</sub>	2-Ethyl-1,3-butadiene	66.9	60.2	5.3	334	
225	C <sub>6</sub> H <sub>10</sub> O	Cyclohexanone, < 760 mm.	...	90	...	v-1	121
		"	155.6	96.3	55	v-1	121
		"	155.4	95	61.6		334
226	C <sub>6</sub> H <sub>10</sub> O	2-Ethylcrotonalde- hyde	135.3	92.7	38	334	
227	C <sub>6</sub> H <sub>10</sub> O	2-Hexenal	149	95.1	48.6	334	
228	C <sub>6</sub> H <sub>10</sub> O	5-Penten-2-one	128.9	92.1	35.3	334	
229	C <sub>6</sub> H <sub>10</sub> O	2-Methyl-2-pentenal	138.2	93.5	40	334	
230	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	Ethyl crotonate	137.8	93.5	38	334	
231	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	Vinyl butyrate	116.7	87.2	20.4	334	
232	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	Vinyl isobutyrate	105.4	83.5	17	334	
233	C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	Ethylene glycol diacetate	190.8	99.7	84.6	334	
234	C <sub>6</sub> H <sub>11</sub> N	Diallylamine	110.5	87.2	24	334	
235	C <sub>6</sub> H <sub>11</sub> NO	6-Caprolactam, 50-760 mm.	...	...	...	v-1	333
236	C <sub>6</sub> H <sub>11</sub> NO <sub>3</sub>	2-Methyl-2-nitropropyl vinyl ether, 10 mm.	77-78	...	8.6	341	
237	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.8	69.5	8.4	147	
238	C <sub>6</sub> H <sub>12</sub>	4-Methyl-2-pentene	56.7	53.5	3.5	334	
239	C <sub>6</sub> H <sub>12</sub> Cl <sub>2</sub> O	Bis(chloroisopropyl) ether	187.0	98.5	62.6	334	
240	C <sub>6</sub> H <sub>12</sub> Cl <sub>2</sub> O <sub>2</sub>	1,2-Bis(2-chloro- ethoxy)ethane	240.9	99.7	94.0	334	
241	C <sub>6</sub> H <sub>12</sub> O	Butyl vinyl ether	94.2	77.5	11.6	334	

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
A =	H <sub>2</sub> O	Water (continued)	100			
242	C <sub>6</sub> H <sub>12</sub> O	Cyclohexanol, 42 mm.	...	35	86	374
	"	57 mm.	...	40	84.8	374
	"	95 mm.	...	50	82.5	374
	"	158 mm.	...	60	80.2	374
	"	252 mm.	...	70	77.8	374
	"	385 mm.	...	80	75.2	374
	"	570 mm.	...	90	72.6	374
	"	684 mm.	...	95	70.7	374
	"		160.65	97.8	69.5	374
	"	<760 mm.	160.65	90	74	v-1 122
243	C <sub>6</sub> H <sub>12</sub> O	2-Ethylbutyraldehyde	116.7	87.5	23.7	334
244	C <sub>6</sub> H <sub>12</sub> O	Isobutyl vinyl ether	83.4	70.5	7.8	334
245	C <sub>6</sub> H <sub>12</sub> O	Hexaldehyde	128.3	91.0	31.3	334
246	C <sub>6</sub> H <sub>12</sub> O	2-Methylpentanal	118.3	88.5	23	334
247	C <sub>6</sub> H <sub>12</sub> OS	2-Ethylthioethyl vinyl ether	169.7	97.8	61	334
248	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	2-Ethylbutyric acid	194.2	99.7	87	334
249	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Hexanoic acid	205.7	99.8	92.1	334
250	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	4-Hydroxy-4-methyl-2-pentanone	...	Nonazeotrope	v-1	125
	"	100 mm.	...	Nonazeotrope	v-1	125
	"	200 mm.	123.5	66.4	97	v-1 125
	"	400 mm.	143	82.6	90	v-1 125
	"	760 mm.	161	99.5	85	v-1 125
	"		169.2	99.6	87	335
251	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	2-Ethyl-2-methyl-1,3-dioxolane	117.6	88.5	20	334
252	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	2-Methylpentanoic acid	196.4	99.4	87.9	334
253	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	4-Vinylxyloxy-1-butanol	-	Min. b.p.		94
254	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Tetrahydropyran-2-methanol	187.2	Nonazeotrope		334
255	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	2-Ethoxyethyl acetate	156.2	97.5	55.6	334
256	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	Methyl 3-ethoxypropionate, 50 mm.	...	37	50	334
257	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	2-(2-Vinylxyloxyethoxy)ethanol	...	~100	97-8	94
	"		207.6	Nonazeotrope		334
258	C <sub>6</sub> H <sub>13</sub> Cl	1-Chlorohexane	134.5	91.8	29.7	334
259	C <sub>6</sub> H <sub>13</sub> N	Cyclohexylamine, 40 mm.	51.4	31.7	69.0	38
	"	70 mm.	...	41.9	66.0	38
	"	100 mm.	72	49.0	64.1	38
	"	200 mm.	90.9	63.6	60.7	38
	"	300 mm.	102.5	72.7	59.1	38
	"	500 mm.	118.9	85.3	57.0	38
	"	760 mm.	134.5	96.4	55.8	38
260	C <sub>6</sub> H <sub>13</sub> N	Hexamethyleneimine	138	95.5	49.5	81
261	C <sub>6</sub> H <sub>13</sub> NO	2,6-Dimethylmorpholine	146.6	99.6	70	334
262	C <sub>6</sub> H <sub>13</sub> NO	4-Ethylmorpholine	138.3	96.7	46.2	334
263	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	4-Morpholineethanol	225.5	Nonazeotrope		334
264	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	61.6	5.6	334
265	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub>	2,5-Dimethylpiperazine	164	Nonazeotrope		334
266	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O	4-(2-Aminoethyl)morpholine	204.7	Nonazeotrope		334
267	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O	1-Piperazineethanol	246.3	Nonazeotrope		334
268	C <sub>6</sub> H <sub>14</sub> O	Butyl ethyl ether	92.2	76.6	11.9	334
269	C <sub>6</sub> H <sub>14</sub> O	2-Ethyl-1-butanol	147.0	96.7	58	335
270	C <sub>6</sub> H <sub>14</sub> O	Hexyl alcohol	157.1	97.8	67.2	335
271	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether, 131 mm.	22.47	20.0	2.6	334
	"	297 mm.	41.82	38.0	3.4	334
	"	481 mm.	54.75	50.0	4.0	334
	"	1520 mm.	92	88	7.6	334

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
272	C <sub>6</sub> H <sub>14</sub> O	2-Methyl-1-pentanol	148	97.2	60	334	
273	C <sub>6</sub> H <sub>14</sub> O	4-Methyl-2-pentanol	131.8	94.3	43.3	334	
274	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Diethoxyethane	102.1	82.6	14.3	334	
275	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Dimethoxybutane	114	87.3	20.3	334	
276	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,3-Dimethoxybutane	120.3	89.6	30	334	
277	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Dimethoxy-2-methylpropane	104.7	83.9	14.3	334	
278	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	2-Methyl-1,5-pentanediol	242.4	Nonazeotrope		334	
279	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	3-Methyl-1,5-pentanediol	248.4	Nonazeotrope		334	
280	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	Bis(2-methoxyethyl)ether, 100 mm.	103	-	89.5	9	
		" 760 mm.	162	-	80.2	9	
		" 800 mm.	164	-	80	9	
		" 760 mm.	164	99.55	78	v-1	76
281	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	2-(2-Ethoxyethoxy)ethanol	202.8	Nonazeotrope		334	
282	C <sub>6</sub> H <sub>15</sub> N	Diisopropylamine	84.1	74.1	9	334	
283	C <sub>6</sub> H <sub>15</sub> N	1,3-Dimethylbutyl-amine	108.5	89.5	28.6	334	
284	C <sub>6</sub> H <sub>15</sub> N	Dipropylamine	109	86.7	-	41	
285	C <sub>6</sub> H <sub>15</sub> N	N-Ethylbutylamine	111.2	87.5	43.6	334	
286	C <sub>6</sub> H <sub>15</sub> N	Hexylamine	132.7	95.5	49	334	
287	C <sub>6</sub> H <sub>15</sub> N	Triethylamine	89.4	Compound forma-tion	v-1	315	
288	C <sub>6</sub> H <sub>15</sub> NO	2-Butylaminoethanol	199.3	Nonazeotrope		334	
289	C <sub>6</sub> H <sub>15</sub> NO	2-Diethylaminoethanol	162.1	98.9	74.4	334	
290	C <sub>6</sub> H <sub>15</sub> NO	1-Isopropylamino-2-propanol	164.5	99.8	86	334	
291	C <sub>6</sub> H <sub>15</sub> N <sub>3</sub>	4-(2-Aminoethyl)piperazine	222.0	Nonazeotrope		334	
292	C <sub>6</sub> H <sub>16</sub> N <sub>2</sub>	N,N-Diethylethylene-diamine	144.9	99.8	79.5	334	
293	C <sub>6</sub> H <sub>16</sub> N <sub>2</sub>	N,N,N',N'-Tetra-methylethylene-diamine	119-22	95.6	30	287	
294	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	Evaporation behavior		196	
		"	110.6	85	20.2	334	
295	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>	Guaiacol	205.0	99.5	87.5	96	
296	C <sub>7</sub> H <sub>9</sub> ClO	2-Chloroallylidene diacetate	212.1	99.7	85	334	
297	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine	142	96.02	51.8	v-1	365
298	C <sub>7</sub> H <sub>9</sub> N	Tetrahydrobenzonitrile	195.1	98.8	78.3	334	
299	C <sub>7</sub> H <sub>10</sub> O	1,2,3,6-Tetrahydro-benzaldehyde	164.2	96.9	60	334	
300	C <sub>7</sub> H <sub>10</sub> O <sub>4</sub>	Allylidene diacetate	-	98.7	71	334	
301	C <sub>7</sub> H <sub>12</sub>	2,4-Dimethyl-1,3-pen-tadiene, 750.6 mm.	93.3	76.8	13	334	
302	C <sub>7</sub> H <sub>12</sub> O	3-Hepten-2-one	162.9	96	55.7	334	
303	C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acrylate	147	94.5	40	76	
		" 100 mm.	...	94.3	38	334	
304	C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	2-Ethoxy-3,4-dihydro-1,2-pyran	142.9	93.6	34.9	334	
305	C <sub>7</sub> H <sub>12</sub> O <sub>4</sub>	Pimelic acid, 100 mm.	272	Nonazeotrope		334	
306	C <sub>7</sub> H <sub>14</sub> O	Butyl isopropenyl ether	114.8	86.3	18.8	334	
307	C <sub>7</sub> H <sub>14</sub> O	3-Heptanone	147.6	94.6	42.2	334	
308	C <sub>7</sub> H <sub>14</sub> O	4-Heptanone	143.7	94.3	40.5	334	
309	C <sub>7</sub> H <sub>14</sub> O	5-Methyl-2-hexanone	144	94.7	44	334	
		"	...	93.0	75	84	
310	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	Amyl acetate (isomers)	146	94	36.2	334	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	H <sub>2</sub> O	Water (continued)	100				
311	C <sub>7</sub> H <sub>14</sub> O <sub>3</sub>	Ethyl 3-ethoxy- propionate	170.1	97	63	334	
		" 100 mm.	107.8	50.5	71	334	
312	C <sub>7</sub> H <sub>14</sub> O <sub>3</sub>	3-Methoxybutyl acetate	171.3	96.5	65.4	334	
313	C <sub>7</sub> H <sub>14</sub> O <sub>4</sub>	2-(2-Methoxyethoxy) ethyl acetate	208.9	Nonazeotrope		334	
314	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	79.2	12.9	334	
315	C <sub>7</sub> H <sub>16</sub> O	5-Methyl-2-hexanol	...	96.5	59.1	84	
316	C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	1-Butoxy-2-ethoxy- ethane	149.9	95.6	42	334	
317	C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	1-Butoxy-2-propanol	170.1	98.6	72	334	
318	C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	2-Ethyl-1,5-pentane- diol	253.3	Nonazeotrope		334	
319	C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	1-(2-Ethoxyethoxy)- 2-propanol	198.1	Nonazeotrope		334	
320	C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	2-Ethoxyethyl 2-methoxyethyl ether	-	99.5	82	334	
321	C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	2-(2-Propoxyethoxy) ethanol	215.8	Nonazeotrope		334	
322	C <sub>7</sub> H <sub>17</sub> NO	1-Diethylamino-2- propanol	159.5	97.2	55	334	
323	C <sub>7</sub> H <sub>18</sub> N <sub>2</sub>	3-Diethylamino- propylamine	169.4	99.8	93	334	
324	C <sub>8</sub> H <sub>8</sub>	Styrene	145.1	93.9	40.9	334	
325	C <sub>8</sub> H <sub>8</sub> Cl <sub>2</sub> O <sub>2</sub>	2-(2,4-Dichloro- phenoxy)ethanol	...	~100	~99.6	334	
326	C <sub>8</sub> H <sub>8</sub> O	Acetophenone	201.6	99.1	81.5	334	
327	C <sub>8</sub> H <sub>8</sub>	(Epoxyethyl)benzene	194.2	99.2	77.6	334	
328	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136.2	92	33.0	334	
		"	...	91	30.6	84	
329	C <sub>8</sub> H <sub>10</sub>	m-Xylene	139.1	94.5	40	334	
330	C <sub>8</sub> H <sub>10</sub> O	α-Methylbenzyl alcohol	203.4	99.7	89	335	
331	C <sub>8</sub> H <sub>11</sub> N	N-Ethylaniline	204.8	99.2	83.9	334	
332	C <sub>8</sub> H <sub>11</sub> N	α-Methylbenzylamine	188.6	99.4	83.8	334	
333	C <sub>8</sub> H <sub>11</sub> N	2-Methyl-5-ethyl- pyridine	178.3	98.4	72	334	
334	C <sub>8</sub> H <sub>11</sub> N	ar-Methyl-1,2,3,6- tetrahydrobenzo- nitrile	205.4	99.1	82.6	334	
335	C <sub>8</sub> H <sub>12</sub> O	2-Methyl-1,2,3,6- tetrahydrobenz- aldehyde	176.4	97.7	92.2	334	
336	C <sub>8</sub> H <sub>12</sub> O <sub>2</sub>	3,4-Dihydro-2,5- dimethyl-2H-pyran- 2-carboxaldehyde	170.9	97.4	56	334	
337	C <sub>8</sub> H <sub>12</sub> O <sub>4</sub>	Diethyl fumarate	218.1	99.5	87.5	334	
338	C <sub>8</sub> H <sub>14</sub>	Diisobutylene	102.3	82	12	334	
339	C <sub>8</sub> H <sub>14</sub> O	Bicyclo[2.2.1] heptane-2-methanol	203.9	99.7	91	334	
340	C <sub>8</sub> H <sub>14</sub> O	Diisobutylene oxide	...	94	37	334	
341	C <sub>8</sub> H <sub>14</sub> O	2-Ethyl-2-hexenal	176	97.6	60.9	334	
342	C <sub>8</sub> H <sub>14</sub> O	2-Octenal	...	99.2	76.2	334	
343	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Diallyloxyethane	150.9	95.3	41	334	
344	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	2-Ethyl-3-hexenoic acid	231.8	99.9	97.4	334	
345	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	Vinyl 2-methyl- valerate	148.8	95	38	334	
346	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	Bis(2-vinylxyethyl) ether	198.7	99.4	82	334	
347	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	Butyl acetoacetate	213.9	99.4	84.1	334	
348	C <sub>8</sub> H <sub>14</sub> O <sub>4</sub>	Diethyl succinate	216.2	99.9	91	334	
349	C <sub>8</sub> H <sub>15</sub> N	2-(Aminomethyl) bicyclo[2.2.1] heptane	185.9	99	82	334	
350	C <sub>8</sub> H <sub>16</sub> O	2-Ethylhexaldehyde	163.6	96.4	51.6	334	

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
351	C <sub>8</sub> H <sub>16</sub> O	2,4,4-Trimethyl-1,2-epoxypentane	140.9	93.4	33	334	
352	C <sub>8</sub> H <sub>16</sub> O	2,4,4-Trimethyl-2,3-epoxypentane	127.3	91	25	334	
353	C <sub>8</sub> H <sub>16</sub> OS	2-Butylthioethyl vinyl ether	210.5	99.3	80	334	
354	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2-Butoxyethyl vinyl ether	...	97.0	52.8	334	
355	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2,3-Epoxy-2-ethyl-hexanol	...	100	99.5	334	
356	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2-Ethylbutyl acetate	162.3	97.0	52.4	334	
357	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2-Ethylhexanoic acid	227.6	99.9	96.4	334	
		"	...	99.5	97.6	84	
358	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	Hexyl acetate	171.0	97.4	61	334	
359	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	Iso-octanoic acid (isomers)	220	99.9	96	334	
360	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	4-Methyl-2-pentyl acetate	146.1	94.8	36.7	334	
361	C <sub>8</sub> H <sub>16</sub> O <sub>3</sub>	2-Butoxyethyl acetate	192.2	98.8	71.9	334	
362	C <sub>8</sub> H <sub>16</sub> O <sub>3</sub>	2,5-Diethoxytetrahydrofuran	173.0	98	60	334	
363	C <sub>8</sub> H <sub>16</sub> O <sub>3</sub>	2-Ethoxyethyl 2-vinyloxyethyl ether	194.0	99.3	82.3	334	
364	C <sub>8</sub> H <sub>16</sub> O <sub>4</sub>	2-(2-Ethoxyethoxy)ethyl acetate	217.4	Nonazeotrope	334		
365	C <sub>8</sub> H <sub>17</sub> Cl	1-Chloro-2-ethylhexane	173	97.3	55	334	
366	C <sub>8</sub> H <sub>17</sub> N	N-Ethylcyclohexylamine	164.9	97.1	58	334	
367	C <sub>8</sub> H <sub>17</sub> N	5-Ethyl-2-methylpiperidine	163.4	97.1	57.0	334	
368	C <sub>8</sub> H <sub>17</sub> N	α-Methylcyclohexylmethylamine	...	99.0	79	334	
369	C <sub>8</sub> H <sub>17</sub> NO	4-Ethyl-2,6-dimethylmorpholine	158.1	97.5	49	334	
370	C <sub>8</sub> H <sub>18</sub>	Octane	125.7	89.6	25.5	334	
371	C <sub>8</sub> H <sub>18</sub> O	2-Ethyl-1-hexanol	184.8	99.1	80	335	
372	C <sub>8</sub> H <sub>18</sub> O	Iso-octyl alcohol (isomers)	186.5	99.8	82	334	
373	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-Ethyl-1,3-hexanediol	243.1	Nonazeotrope	334		
374	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	1-Butoxy-2-ethoxyethane	164.2	96.8	50	334	
375	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	1,1-Diethoxybutane	146.3	94.2	34.5	334	
376	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	5-Ethoxy-3-methylpentanol	211.7	99.9	97	334	
377	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-Ethyl-3-methyl-1,5-pantanediol	265.5	Nonazeotrope	334		
378	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-Hexyloxyethanol	208.1	99.7	91	334	
379	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-(2-Methylpentyloxy)ethanol	197.1	99.6	86	334	
380	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	2-(2-Butoxyethoxy)ethanol	230.6	Nonazeotrope	334		
381	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	Bis(2-ethoxyethyl)ether	188.4	99.4	69	334	
382	C <sub>8</sub> H <sub>18</sub> O <sub>4</sub>	1,2-Bis(2-methoxyethoxy)ethane	...	Nonazeotrope	9		
383	C <sub>8</sub> H <sub>19</sub> N	Dibutylamine	159.6	97	50.5	334	
384	C <sub>8</sub> H <sub>19</sub> N	2-Ethylhexylamine	169.1	98.2	64	334	
385	C <sub>8</sub> H <sub>19</sub> NO	2-Diisopropylaminoethanol	190.9	99.2	85	334	
386	C <sub>8</sub> H <sub>19</sub> NO <sub>2</sub>	2,2'-Butyliminodiethanol	...	Nonazeotrope	334		
387	C <sub>8</sub> H <sub>19</sub> NO <sub>2</sub>	1,1'-Ethyliminodi-2-propanol	238.9	Nonazeotrope	334		
388	C <sub>9</sub> H <sub>8</sub> O <sub>2</sub>	Vinyl benzoate	...	99.3	82.6	334	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
389	C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	1,2-Epoxy-3-phenoxyp propane	244.4	99.8	96.1	334	
390	C <sub>9</sub> H <sub>11</sub> N	5-Ethyl-2-vinyl-pyridine	...	99.4	85	334	
391	C <sub>9</sub> H <sub>12</sub>	Cumene	152.4	95	43.8	334	
392	C <sub>9</sub> H <sub>12</sub> O <sub>2</sub>	Bicyclo[2.2.1]hept-5-ene-2-ol acetate	188.6	98.6	70	334	
393	C <sub>9</sub> H <sub>13</sub> NO	5-Ethyl-2-pyridine-ethanol	...			334	
394	C <sub>9</sub> H <sub>14</sub> O	Isophorone	215.2	99.5	83.9	334	
395	C <sub>9</sub> H <sub>15</sub> O	" 25 p.s.i.g.	251	130	86.5	334	
		1-Methyl-2,5-endomethylene-cyclohexane-1-methanol	211.1	99.7	90.6	334	
396	C <sub>9</sub> H <sub>15</sub> N	Triallylamine	151.1	95	38	334	
397	C <sub>9</sub> H <sub>16</sub> O	5-Ethyl-3-hepten-2-one	193.5	98.7	73.4	334	
398	C <sub>9</sub> H <sub>16</sub> O <sub>4</sub>	Dimethyl pimelate	248.9	99.9	96.8	334	
399	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	2,6-Dimethyl-4-heptanone	169.4	97.0	51.9	334	
400	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	2-Heptyl acetate	176.4	97.8	58.9	334	
401	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	3-Heptyl acetate	173.8	97.5	57.6	334	
402	C <sub>9</sub> H <sub>18</sub> O <sub>3</sub>	3-(2-Ethylbutoxy)propionic acid	...	100	> 99	334	
403	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	94.8	82	332	
		"	150.8	95	39.8	334	
404	C <sub>9</sub> H <sub>20</sub> O	2,6-Dimethyl-4-heptanol	178.1	98.5	70.4	335	
405	C <sub>9</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethyl-2-butyl-1,3-propanediol	...		Nonazeotrope	334	
406	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	1-(2-Butoxyethoxy)-2-propanol	230.3	99.9	95	334	
407	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	2-Methoxymethyl-2,4-dimethyl-1,5-pentanediol	...		Nonazeotrope	334	
408	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	1,1,3-Triethoxypropane	...	99	70	334	
409	C <sub>9</sub> H <sub>21</sub> N	N-Methyldibutylamine	163.1	96.5	48.0	334	
410	C <sub>9</sub> H <sub>21</sub> N	Tripropylamine	156	94.3	-	41	
411	C <sub>9</sub> H <sub>21</sub> NO <sub>2</sub>	1,1'-Isopropylimino-di-2-propanol	248.6		Nonazeotrope	334	
412	C <sub>9</sub> H <sub>21</sub> NO <sub>4</sub>	2-(2-[2-(3-Amino-propoxy)ethoxy]-ethoxy)ethanol	...		Nonazeotrope	334	
413	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	Dimethyl phthalate	282.9	100	98.9	334	
414	C <sub>10</sub> H <sub>12</sub> O <sub>3</sub>	2-Phenoxyethyl acetate	260.6	99.9	97.4	334	
415	C <sub>10</sub> H <sub>14</sub>	Dicyclopentadiene	172	98	67.7	334	
416	C <sub>10</sub> H <sub>14</sub> N <sub>2</sub>	Nicotine, 110 mm. " 478 mm. " 572 mm. " 624 mm. " 760 mm.	...		Nonazeotrope v-1	106	
		"	...	...	99.70 v-1	106	
		"	...	...	99.02 v-1	106	
		"	...	...	98.50 v-1	106	
		"	...	99.85	97.48 v-1	106	
417	C <sub>10</sub> H <sub>14</sub> O <sub>2</sub>	Ethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate	198	99.2	80	334	
418	C <sub>10</sub> H <sub>14</sub> O <sub>3</sub>	2-(2-Phenoxyethoxy)ethanol	297.9		Nonazeotrope	334	
419	C <sub>10</sub> H <sub>15</sub> N	N-Butylaniline	240.4	99.8	94.4	334	
420	C <sub>10</sub> H <sub>15</sub> N	N-Ethyl- $\alpha$ -methylbenzylamine	201.2	99.2	80	334	
421	C <sub>10</sub> H <sub>15</sub> N	N,N, $\alpha$ -Trimethylbenzylamine	195.8	98.6	74.8	334	

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
422	C <sub>10</sub> H <sub>15</sub> NO	2-( $\alpha$ -Methylbenzyl-amino)ethanol	...	Nonazeotrope	334		
423	C <sub>10</sub> H <sub>16</sub> O	Dicyclopentenol	...	100	96.6	334	
424	C <sub>10</sub> H <sub>16</sub> O	Trimethyltetrahydro-benzaldehyde	204.5	99.0	77.0	334	
425	C <sub>10</sub> H <sub>16</sub> O <sub>4</sub>	Diisopropyl maleate	228.7	99.9	93	334	
426	C <sub>10</sub> H <sub>18</sub> O <sub>2</sub>	Vinyl 2-ethylhexanoate	185.2	98.6	68	334	
427	C <sub>10</sub> H <sub>18</sub> O <sub>2</sub>	Vinyl octanoate (isomers)	...	99.1	74	334	
428	C <sub>10</sub> H <sub>20</sub> O	2-Ethylhexyl vinyl ether	177.7	97.8	59.1	334	
429	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethylbutyl butyrate	199.6	98.6	74.9	334	
430	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethylhexyl acetate	198.4	99.0	73.5	334	
431	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	4-Methyl-2-pentyl butyrate	182.6	98.2	60.8	334	
432	C <sub>10</sub> H <sub>20</sub> O <sub>3</sub>	2-Butoxyethyl 2-vinyloxyethyl ether	226.7	99.8	90	334	
433	C <sub>10</sub> H <sub>21</sub> Cl	Chlorodecane (isomers)	210.6	99.7	84	334	
434	C <sub>10</sub> H <sub>21</sub> N	N-Butylcyclohexyl-amine	209.5	99.5	81	334	
435	C <sub>10</sub> H <sub>22</sub> O	Decyl alcohol (isomers)	217.3	100	94.8	335	
436	C <sub>10</sub> H <sub>22</sub> O	2-Ethyloctanol	220.5	99.9	94.0	334	
437	C <sub>10</sub> H <sub>22</sub> O	2-Propylheptanol	217.9	99.8	92	334	
438	C <sub>10</sub> H <sub>22</sub> O <sub>2</sub>	1,2-Dibutoxyethane	203.6	99.1	76.8	334	
439	C <sub>10</sub> H <sub>22</sub> O <sub>2</sub>	1,1-Diisobutoxyethane	160.5	97.4	52.5	334	
440	C <sub>10</sub> H <sub>22</sub> O <sub>3</sub>	2-(2-Hexyloxyethoxy)ethanol	259.1	100	98.1	334	
441	C <sub>10</sub> H <sub>22</sub> O <sub>4</sub>	1,2-Bis(2-ethoxyethoxy)ethane	246.9	Nonazeotrope	334		
442	C <sub>10</sub> H <sub>22</sub> O <sub>5</sub>	Bis[2-(2-methoxyethoxyethyl) ether	...	Nonazeotrope	9, 334		
443	C <sub>10</sub> H <sub>23</sub> N	Decylamine (isomers)	203.7	99.5	82	334	
444	C <sub>10</sub> H <sub>23</sub> N	Diamylamine (isomers)	190	99.3	76	334	
445	C <sub>10</sub> H <sub>23</sub> N	N,N-Dimethyl-2-ethylhexylamine	176.1	98.2	58	334	
446	C <sub>10</sub> H <sub>23</sub> NO	2-Dibutylaminoethanol	228.7	99.9	91.0	334	
447	C <sub>11</sub> H <sub>14</sub> O <sub>3</sub>	Butyl salicylate	268.2	99.9	95.8	334	
448	C <sub>11</sub> H <sub>14</sub> O <sub>3</sub>	Ethyl 6-formylbicyclo[2.2.1]hept-5-en-2-carboxylate	...	100	97	334	
449	C <sub>11</sub> H <sub>16</sub> O <sub>3</sub>	Allyl 6-methyl-3,4-epoxycyclohexane-carboxylate	251.4	100	98.1	334	
450	C <sub>11</sub> H <sub>18</sub> O <sub>2</sub>	Isopropyl 6-methyl-3-cyclohexene-carboxylate	215.2	99.7	84	334	
451	C <sub>11</sub> H <sub>20</sub> O	5-Ethyl-3-nonen-2-one	226.4	99.6	92	334	
452	C <sub>11</sub> H <sub>20</sub> O <sub>4</sub>	Diethyl pimelate	268.1	100	98.3	334	
453	C <sub>11</sub> H <sub>22</sub> O	5-Ethyl-2-nonenone	222.9	99.6	87.1	334	
454	C <sub>11</sub> H <sub>22</sub> O <sub>2</sub>	2,6-Dimethyl-4-heptyl acetate	192.2	98.7	67.6	334	
455	C <sub>11</sub> H <sub>22</sub> O <sub>3</sub>	4-Methoxy-2,6-dipropyl-1,3-dioxane	223.6	99.6	88.1	334	
456	C <sub>11</sub> H <sub>24</sub>	Undecane	194.5	98.85	96	332	
457	C <sub>11</sub> H <sub>24</sub> O	5-Ethyl-2-nonalol	225.4	99.7	89.1	334	
458	C <sub>11</sub> H <sub>24</sub> O <sub>2</sub>	2,2-Dibutoxypropane	...	98.9	69.6	334	
459	C <sub>11</sub> H <sub>24</sub> O <sub>2</sub>	2,6-Dimethyl-4-heptyloxyethanol	225.5	99.9	91	334	
460	C <sub>11</sub> H <sub>24</sub> O <sub>4</sub>	1,1,3,3-Tetraethoxypropane	220.1	99.8	87.4	334	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$\text{H}_2\text{O}$	Water (continued)	100				
461	$\text{C}_{11}\text{H}_{25}\text{NO}$	1-Dibutylamino-2-propanol	229.1	99.8	88.4	334	
462	$\text{C}_{12}\text{H}_{14}\text{O}_4$	Diethyl phthalate	294.3	99.9	98.4	334	
463	$\text{C}_{12}\text{H}_{18}\text{O}$	Triisobutylene oxide	...	99.3	72	334	
464	$\text{C}_{12}\text{H}_{19}\text{N}$	N-Butyl- $\alpha$ -methylbenzylamine	239.3	99.8	92	334	
465	$\text{C}_{12}\text{H}_{20}\text{O}_2$	sec-Butyl-6-methyl-3-cyclohexene-carboxylate	...	100	92	334	
466	$\text{C}_{12}\text{H}_{20}\text{O}_4$	Dibutyl fumarate	285.2	99.9	98.5	334	
467	$\text{C}_{12}\text{H}_{20}\text{O}_4$	Dibutyl maleate	280.6	99.9	98.4	334	
468	$\text{C}_{12}\text{H}_{22}\text{O}_2$	2-Ethylhexyl crotonate	241.2	99.9	93.4	334	
469	$\text{C}_{12}\text{H}_{22}\text{O}_2$	Vinyl decanoate (isomers)	...	99.9	88	334	
470	$\text{C}_{12}\text{H}_{22}\text{O}_4$	Diethyl 2-ethyl-3-methylglutarate	255.8	100	97.1	334	
471	$\text{C}_{12}\text{H}_{23}\text{N}$	Dicyclohexylamine	255.8	Nonazeotrope		38	
472	$\text{C}_{12}\text{H}_{24}\text{O}$	2,6,8-Trimethyl-4-nonanone	218.2	99	84	334	
473	$\text{C}_{12}\text{H}_{24}\text{O}_2$	2-Ethylbutyl 2-ethylbutyrate	222.6	99.6	85.6	334	
474	$\text{C}_{12}\text{H}_{24}\text{O}_2$	2-Ethylbutyl hexanoate	236.2	99.7	91.2	334	
475	$\text{C}_{12}\text{H}_{24}\text{O}_2$	Hexyl 2-ethylbutyrate	230.3	99.7	88.8	334	
476	$\text{C}_{12}\text{H}_{24}\text{O}_2$	Hexyl hexanoate	245.2	99.8	93.3	334	
477	$\text{C}_{12}\text{H}_{26}$	Dodecane	214.5	99.45	98	332	
478	$\text{C}_{12}\text{H}_{26}\text{O}$	2-Butyl-1-octanol	253.4	99.9	97.5	334	
479	$\text{C}_{12}\text{H}_{26}\text{O}$	2,6,8-Trimethyl-4-nonanol	225.5	99.6	89.7	335	
480	$\text{C}_{12}\text{H}_{26}\text{O}_2$	1,1-Diethoxy-2-ethylhexane	207.8	99.3	78.6	334	
481	$\text{C}_{12}\text{H}_{26}\text{O}_2$	1,1-Diisopentoxyethane	213.6	99.3	78.8	334	
482	$\text{C}_{12}\text{H}_{26}\text{O}_2$	3-Ethoxy-4-ethyl-octanol	249.2	100	98	334	
483	$\text{C}_{12}\text{H}_{26}\text{O}_3$	Bis(2-butoxyethyl)ether	254.6	99.8	94.7	334	
484	$\text{C}_{12}\text{H}_{26}\text{O}_3$	1,1,3-Triethoxyhexane	...	99.6	85	334	
485	$\text{C}_{12}\text{H}_{27}\text{N}$	Dihexylamine	239.8	99.8	92.8	334	
486	$\text{C}_{12}\text{H}_{27}\text{N}$	Tributylamine	213.9	99.8	82	334	
487	$\text{C}_{12}\text{H}_{27}\text{O}_4\text{P}$	Tributyl phosphate	...	100	99.4	334	
488	$\text{C}_{13}\text{H}_{24}\text{O}_2$	Decyl acrylate (isomers)	...	99.9	94.9	334	
489	$\text{C}_{14}\text{H}_{22}\text{O}$	2-(Ethylhexyl)phenol	297.0	100	> 99	334	
490	$\text{C}_{14}\text{H}_{23}\text{N}$	N-(Ethylhexyl)aniline	...	100	99.3	334	
491	$\text{C}_{14}\text{H}_{24}$	1,3,6,8-Tetramethyl-1,6-cyclodecadiene	220.5	99.5	82.3	334	
492	$\text{C}_{14}\text{H}_{26}\text{O}_4$	Dibutyl adipate	...	100	> 99	334	
493	$\text{C}_{14}\text{H}_{28}\text{O}$	Trimethylnonyl vinyl ether	223.4	99.6	84.3	334	
494	$\text{C}_{14}\text{H}_{28}\text{O}_2$	2-Ethylbutyl 2-ethylhexanoate	261.5	99.9	95.8	334	
495	$\text{C}_{14}\text{H}_{28}\text{O}_2$	2-Ethylhexyl 2-ethylbutyrate	252.8	99.9	94.8	334	
496	$\text{C}_{14}\text{H}_{28}\text{O}_2$	2-Ethylhexyl hexanoate	267.2	99.9	96.4	334	
497	$\text{C}_{14}\text{H}_{28}\text{O}_2$	Hexyl 2-ethylhexanoate	254.3	99.9	94.6	334	
498	$\text{C}_{14}\text{H}_{29}\text{N}$	N-(2-Ethylhexyl)cyclohexylamine	...	100	99.7	334	
499	$\text{C}_{14}\text{H}_{30}\text{O}$	7-Ethyl-2-methyl-4-undecanol	264.3	99.9	96.3	334	
500	$\text{C}_{14}\text{H}_{30}\text{O}_2$	2-(2,6,8-Trimethyl-4-nonyloxy)ethanol	...	100	99.0	334	
501	$\text{C}_{15}\text{H}_{28}\text{O}_4$	Dibutyl pimelate	...	100	> 99.5	334	
502	$\text{C}_{15}\text{H}_{32}\text{O}$	2,8-Dimethyl-6-isobutyl-4-nonanol	265.4	99.9	97.2	334	

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>H<sub>2</sub>O</b>	<b>Water (continued)</b>	<b>100</b>				
503	C <sub>16</sub> H <sub>18</sub> O	Bis(α-methylbenzyl) ether	286.7	100	98.7	334	
504	C <sub>16</sub> H <sub>28</sub> O <sub>4</sub>	Bis(4-methyl-2-pentyl) maleate	...	100	99	334	
505	C <sub>16</sub> H <sub>30</sub> O <sub>2</sub>	Tridecyl acrylate	...	100	98.8	334	
506	C <sub>16</sub> H <sub>31</sub> N	Bis(methylcyclohexyl-methyl)amine	...	100	99.45	334	
507	C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	2-Ethylhexyl 2-ethylhexanoate	280.4	99.9	97.9	334	
508	C <sub>16</sub> H <sub>34</sub> O	Bis(2-ethylhexyl) ether	269.8	99.8	96.4	334	
509	C <sub>16</sub> H <sub>35</sub> N	Bis(2-ethylhexyl) amine	280.7	100	97.6	334	
510	C <sub>17</sub> H <sub>36</sub> O	3,9-Diethyl-6-tridecanol	309	100	> 99	334	
511	C <sub>18</sub> H <sub>24</sub> N <sub>2</sub>	Bis(α-methylbenzyl) ethylenediamine	...	100	> 99.9	334	
512	C <sub>18</sub> H <sub>38</sub> O <sub>2</sub>	1,1-Bis(2-ethylhexyloxy) ethane	...	99.0	.99.9	334	
513	C <sub>18</sub> H <sub>39</sub> NO	2-[Bis(2-ethylhexyl) amino]ethanol	...	100	> 99.5	334	
514	C <sub>20</sub> H <sub>36</sub> O <sub>4</sub>	Bis(2-ethylhexyl) fumarate	...	100	> 99.9	334	
515	C <sub>20</sub> H <sub>36</sub> O <sub>4</sub>	Bis(2-ethylhexyl) maleate	...	100	> 99.9	334	
516	C <sub>20</sub> H <sub>40</sub> O <sub>3</sub>	2-Ethylhexyl 3-(2-ethylhexyloxy) butyrate	...	100	> 99.5	334	
517	C <sub>20</sub> H <sub>42</sub> O	Decyl ether (isomers)	...	100	99.6	334	
518	C <sub>20</sub> H <sub>42</sub> O	Eicosanol (isomers)	...	100	99.8	334	
519	C <sub>20</sub> H <sub>43</sub> N	Didecylamine (isomers)	...	100	99.6	334	
520	C <sub>21</sub> H <sub>38</sub> O <sub>3</sub>	Allyl 9,10-epoxystearate	...	Nonazeotrope		334	
521	C <sub>24</sub> H <sub>52</sub> O <sub>4</sub> Si	Tetra(2-ethylbutoxy) silane	...	100	99.9	334	
522	C <sub>31</sub> H <sub>58</sub> O <sub>6</sub>	Tri(2-ethylhexyl) 1,2,4-butane-tricarboxylate	...	100	99.8	334	
<b>A =</b>	<b>H<sub>2</sub>S</b>	<b>Hydrogen Sulfide</b>	<b>-59.6</b>				
523	C <sub>2</sub> H <sub>6</sub>	Ethane, 200 p.s.i.g.	...	-21.6	7.9	v-1	159
		" 300 p.s.i.g.	...	-6.5	11.6	v-1	159
		" 400 p.s.i.g.	...	5	14.5	v-1	159
		" 500 p.s.i.g.	...	15	17.1	v-1	159
		" 600 p.s.i.g.	...	23.5	19.6	v-1	159
524	C <sub>3</sub> H <sub>8</sub>	Propane, 200 p.s.i.g.	...	7.8	75.2	v-1	161
		" 400 p.s.i.g.	...	37.1	82	v-1	161
		" 600 p.s.i.g.	...	56	83.7	v-1	161
		" 800 p.s.i.g.	...	72	87.2	v-1	161
		" 1000 p.s.i.g.	...	84.2	89.9	v-1	161
		" 1200 p.s.i.g.	...	95	92.7	v-1	161
<b>A =</b>	<b>H<sub>3</sub>N</b>	<b>Ammonia</b>	<b>-33.4</b>				
525	C <sub>2</sub> H <sub>7</sub> N	Ethylamine, 0°-30° C.	...	Nonazeotrope		334	
526	C <sub>3</sub> H <sub>4</sub>	Propadiene	-32	-45	44.3	127	
527	C <sub>3</sub> H <sub>5</sub> F	2-Fluoropropene	-24	-40.5	34	127	
528	C <sub>4</sub> H <sub>10</sub>	Butane, 300 p.s.i.g.	...	43	56.8	v-1	160
		" 500 p.s.i.g.	...	66	59.0	v-1	160
		" 700 p.s.i.g.	...	81	60.9	v-1	160
		" 900 p.s.i.g.	...	94	62.1	v-1	160
		" 1100 p.s.i.g.	...	104	63.4	v-1	160
529	C <sub>8</sub> H <sub>18</sub>	Iso-octane, 200-1600 p.s.i.g.	...	...	v-1	162	
		" > 1400 p.s.i.g.	...	Min. b.p. 98-100%	v-1	162	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A = 530	He CH <sub>4</sub>	Helium Methane, 5-170 atm.	-268.9 ...		Nonazeotrope	v-1	165
A = 531	O <sub>2</sub> S C <sub>2</sub> H <sub>6</sub> O	Sulfur Dioxide Methyl ether	-10 -23.6	0	65		102
A = 532	S Se	Sulfur Selenium	444.6 688	Compound formation	v-1		6
A = 533	CCl <sub>2</sub> F <sub>2</sub> CHClF <sub>2</sub>	Dichlorodifluoromethane Chlorodifluoro- methane " 4.93 atm. " 2059 mm.	-29.8 -40.8 0.04 ...	-41.4 0.00 2.1	25		86
	534 CH <sub>3</sub> Cl	Chloromethane, 5380 mm.	33.5	25.0	78		282
	535 C <sub>2</sub> H <sub>4</sub> F <sub>2</sub>	1,1-Difluoroethane " " " " " 60 p.s.i.a. " 112 p.s.i.a.	...	-30.5 0.00 24.90 40.08 4.44 25	77.55 73.80 71.22 69.31 76.2 74	260 260 260 260 281 281	346
	536 C <sub>2</sub> H <sub>6</sub> O 537 C <sub>3</sub> F <sub>6</sub>	Methyl ether, 2340 mm. Hexafluoropropene, 2059 mm.	6	0	90		282
	538 C <sub>3</sub> HF <sub>7</sub>	Heptafluoropropane, 2328 mm.	-6.1	-7.1	46.3	v-1	346
	539 C <sub>4</sub> F <sub>8</sub>	Perfluorocyclobutane, 2059 mm.	17	0.00	86.5		261
			21	Nonazeotrope			346
A = 540	CCl <sub>3</sub> F	Trichlorofluoro- methane	24.9				
	C <sub>2</sub> H <sub>4</sub> O	Acetaldehyde	20.2	15.6	55		102
	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Methyl formate	32	20	82		102
A = 542	CCl <sub>4</sub>	Carbon Tetrachloride	76.74				
	CH <sub>4</sub> O	Methanol	64.7			v-1	245
	C <sub>2</sub> HCl <sub>3</sub>	Trichloroethylene	86.2	Ideal system		v-1	184
	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile, 371.2 mm.	...	45	84.5	v-1	22
	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	1,2-Dichloroethane	83.45	75.5	80		197
	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid, < 50 mm.	...	Nonazeotrope			132
		" 90 mm.	18.7	99.28			132
		" 340 mm.	51.5	99.42			132
		" 530 mm.	64.6	99			132
		" 760 mm.	118.1	76	98.46		132
		" 1080 mm.	...	90	97.7		132
		" 1400 mm.	...	...	97.0		132
	547 C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	65	84	v-1	136
	548 C <sub>3</sub> H <sub>6</sub> O	Acetone, 513.2 mm.	...	45	9	v-1	23
		" 300 mm.	31.29	31.22	9.03	v-1	10
		" 450 mm.	41.56	41.47	11.80	v-1	10
		" 600 mm.	49.36	49.26	12.48	v-1	10
		" 760 mm.	56.08	55.98	12.6	v-1	10
	549 C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol	97.1	72.3	88.5		334
	550 C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.2	72.8	88.5		334
	551 C <sub>4</sub> H <sub>8</sub> O	2-Butanone, 342 mm.	...	50.0	84.3	v-1	108
		"	79.6	73.7	81.6	v-1	108
							184
	552 C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate	76.7	74.8	57		334
	553 C <sub>4</sub> H <sub>10</sub> O	n-Butyl alcohol	117.75	76.55	97.6	v-1	136
	554 C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde	162	Nonazeotrope		v-1	349
	555 C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Min. b.p.	98	v-1	245
		" 40° C.	...	Nonazeotrope		v-1	107
		" 760 mm.	80.1	Nonazeotrope		v-1	107
		" >1800 mm.	...	Min. b.p.	...		107
	556 C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	Nonazeotrope		v-1	245, 309

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>CS<sub>2</sub></b>	<b>Carbon Disulfide</b>	<b>46.2</b>				
557	CH <sub>3</sub> I	Iodomethane	42.55	41.2	18.6	v-1	116
558	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	1,1-Dichloroethane	57.2	46	94		334
559	C <sub>3</sub> H <sub>7</sub> Cl	1-Chloropropane	46.6	45.2	55		334
560	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate	76.7	46.1	97		334
561	C <sub>4</sub> H <sub>10</sub> O	Ethyl ether	34.6	34.4	1		334
<b>A =</b>	<b>CHClF<sub>2</sub></b>	<b>Chlorodifluoromethane</b>	<b>-40.8 (-17.1°/2059 mm.)</b>				
562	C <sub>2</sub> ClF <sub>5</sub>	Chloropentafluoroethane	-38.5	-45.6	48.7		15
563	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	1,2-Dichloro-1,2-difluoroethane, 755 mm.	29.8	-41.4	87.6		96
564	C <sub>3</sub> F <sub>6</sub>	Hexafluoropropene, 2059 mm.	-6.1	-17.3	69.7		346
565	C <sub>3</sub> F <sub>8</sub>	Perfluoropropane, 6.064 atm.	12.5	0	46		261
566	C <sub>3</sub> H <sub>8</sub>	Propane, 86.2 p.s.i.a., 6.002 atm.	...	0	68		280
567	C <sub>4</sub> F <sub>8</sub>	Perfluorocyclobutane, 2059 mm.	8.6	0	68.3		261
			21.0	Nonazeotrope			346
<b>A =</b>	<b>CHCl<sub>2</sub>F</b>	<b>Dichlorofluoromethane</b>	<b>7.63/723 mm.</b>				
568	C <sub>2</sub> Cl <sub>2</sub> F <sub>4</sub>	1,2-Dichloro-1,1,2,2-tetrafluoroethane, 723 mm.	2.22	0.00	25		261
<b>A =</b>	<b>CHCl<sub>3</sub></b>	<b>Chloroform</b>	<b>61.2</b>				
569	CH <sub>2</sub> O <sub>2</sub>	Formic acid	100.75	...	...	v-1	56
570	CH <sub>4</sub> O	Methanol	64.7	...	...	v-1	31
	" 400 mm.	...	36.3	88.9	v-1	233	
	" 500 mm.	...	41.6	88.4	v-1	233	
	" 600 mm.	...	46.2	87.9	v-1	233	
571	C <sub>2</sub> Cl <sub>4</sub>	Tetrachloroethylene	121.1	Nonazeotrope	v-1		64
572	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile	81.6	Nonazeotrope			334
573	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	Nonazeotrope	v-1		56
574	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol, 20 p.s.i.g.	101.7	82	89		335
575	C <sub>3</sub> H <sub>6</sub> O	Acetone, 101 mm.	...	15	74.3		286
	" 129 mm.	...	20	75.0			286
	" 202 mm.	...	30	76.1			286
	" 250 mm.	...	35	76.3			286
	" 308 mm.	...	40	76.7			286
	" 455 mm.	...	50	77.1			286
	" 546 mm.	...	55	77.3			286
576	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	57.1	64.74	64.35	v-1	31, 195
577	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Ethyl formate	54.1	62.7	87		195, 252
578	C <sub>3</sub> H <sub>7</sub> Br	2-Bromopropane	59.35	62.2	65		195, 252
579	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	Nonazeotrope	v-1	183,	184
	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	79.9	17		334
580	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Isopropyl formate	68.8	70	13		195
581	C <sub>4</sub> H <sub>10</sub> O	Ethyl ether	34.5	Nonazeotrope	v-1	177	
582	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	115.9	Nonazeotrope	v-1	157	
583	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.2	Nonazeotrope	v-1	63	
584	C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	Ethyl benzoate	213.3	Nonazeotrope			334
<b>A =</b>	<b>CH<sub>2</sub>ClBr</b>	<b>Bromochloromethane</b>	<b>69</b>				
585	CH <sub>2</sub> Cl <sub>2</sub>	Dichloromethane	40.7	Nonazeotrope			96
<b>A =</b>	<b>CH<sub>2</sub>Cl<sub>2</sub></b>	<b>Dichloromethane</b>	<b>40.0</b>				
586	C <sub>6</sub> H <sub>14</sub>	2,2-Dimethylbutane, 742 mm.	49.74	35.6	53 vol. %		235

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data			
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>CH<sub>2</sub>O<sub>2</sub></b>	<b>Formic Acid</b>	<b>100.75</b>				
587	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	178.1	Nonazeotrope	v-1	56	
588	C <sub>3</sub> H <sub>7</sub> NO	N,N-Dimethylformamide	153.0	153.2	1.2	295	
	"	"	...	158.8	...	210	
	"	100 mm.	90	98.5	...	v-1	210
	"	200 mm.	107.9	117.0	...	v-1	210
	"	760 mm.	153	158.8	...	v-1	210
589	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	107.43	61.4	v-1	360
<b>A =</b>	<b>CH<sub>3</sub>Cl<sub>3</sub>Si</b>	<b>Trichloromethylsilane</b>	<b>...</b>				
590	C <sub>3</sub> H <sub>9</sub> SiCl	Chlorotrimethylsilane	...	V.p. curves, non-azeotrope			179
<b>A =</b>	<b>CH<sub>3</sub>NO<sub>2</sub></b>	<b>Nitromethane</b>	<b>101.2</b>				
591	CH <sub>4</sub> O	Methanol	64.51	64.33	12.2	55	
592	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile, 60° C.	...	Nonazeotrope	v-1	22	
593	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.32	76.05	29.0	55	
594	C <sub>3</sub> H <sub>6</sub> O	Acetone, 45° C.	...	Nonazeotrope	v-1	22	
595	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.40	79.33	27.6	55	
596	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.25	Nonazeotrope	v-1	135	
	"	"	97.15	89.09	48.4	55	
597	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.73	97.99	71.4	55	
598	C <sub>4</sub> H <sub>10</sub> O	sec-Butyl alcohol	99.53	91.14	45.8	55	
599	C <sub>4</sub> H <sub>10</sub> O	tert-Butyl alcohol	82.41	80.04	21.2	55	
600	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.89	94.46	57.6	55	
601	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	...	12.7	v-1	343
602	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	69.5	26.5	v-1	343
<b>A =</b>	<b>CH<sub>4</sub></b>	<b>Methane</b>	<b>...</b>				
603	C <sub>2</sub> H <sub>6</sub>	Ethane	...	Nonazeotrope	v-1	268	
604	C <sub>3</sub> H <sub>8</sub>	Propane	...	Nonazeotrope	v-1	268	
<b>A =</b>	<b>CH<sub>4</sub>Cl<sub>2</sub>Si</b>	<b>Dichloromethylsilane</b>	<b>...</b>				
605	C <sub>3</sub> H <sub>9</sub> ClSi	Chlorotrimethylsilane, 30°-40°	...	V.p. curve, non-azeotrope			302
<b>A =</b>	<b>CH<sub>4</sub>O</b>	<b>Methanol</b>	<b>64.7</b>				
606	C <sub>2</sub> Cl <sub>3</sub> F <sub>3</sub>	1,1,2-Trichlorotri-fluoroethane	47.5	39.9	6	335	
607	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	cis-1,2-Dichloro-ethylene	60.3	51.5	15.1	v-1	5
608	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	trans-1,2-Dichloro-ethylene	48.3	41.9	9.02	v-1	5
609	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	1,2-Dichloroethane	83.5	59.5	35	335	
610	C <sub>2</sub> H <sub>4</sub> O	Acetaldehyde	20.2	Nonazeotrope	v-1	171	
611	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	Nonazeotrope	v-1	205, 285	
612	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	Nonazeotrope	v-1	7, 68	
613	C <sub>2</sub> H <sub>6</sub> O	Methyl ether	-23.65	...	...	v-1	130
614	C <sub>3</sub> H <sub>3</sub> N	Acrylonitrile, 175 mm.	37	29	47	335	
615	C <sub>3</sub> H <sub>6</sub> O	Acetone, 752 mm.	...	55.07	14.8	v-1	7, 130
	"	"	56.1	Nonazeotrope			192
	"	4.56 atm.	107	99	29	335	
	"	7.82 atm.	132	120	34.6	335	
	"	11.6 atm.	150	140	46	335	
	"	"	149	135	40.4	335	
616	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	57.1	53.9	17.7	v-1	31, 58
	"	4.4 atm.	107	99	29	335	
	"	7.8 atm.	132	120	34.6	335	
	"	11.2 atm.	149	135	40.4	335	
617	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	1-Nitropropane	131.18	Nonazeotrope			55
618	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	2-Nitropropane	120.25	Nonazeotrope			55

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>CH<sub>4</sub>O</b>	<b>Methanol (continued)</b>	<b>64.7</b>				
619	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol	752 mm.	...	Nonazeotrope	v-1	335
		" 800 mm.		...	Nonazeotrope	v-1	335
620	C <sub>3</sub> H <sub>9</sub> BO <sub>3</sub>	Trimethyl borate	68.0	54.0 27	115, 335		
		" 60 p.s.i.g.	...	100 33			335
		" 30 p.s.i.g.	...	84 29			335
		" 200 mm.	...	25 22			335
621	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Vinyl acetate	72.7	58.8 36.6	335		
		"	72.6	59.05 36.6			96
622	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	64.5 70	v-1	135	
623	C <sub>4</sub> H <sub>8</sub> O	Butyraldehyde	74.8	Nonazeotrope		37	
624	C <sub>4</sub> H <sub>8</sub> O	Tetrahydrofuran, 740 mm.	65	59.1 31.1	v-1	115	
625	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate, 40°-60°		% alcohol in- creases with pressure	v-1	228	
		"	76.7	62.1 48.6	335		
626	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Methyl propionate	79.7	62.0 50		84	
627	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol, crit. region	117.75	Nonazeotrope	v-1	75, 135	
628	C <sub>4</sub> H <sub>11</sub> N	Diethylamine, 740 mm.	54.7	66.2 40	335		
629	C <sub>5</sub> H <sub>8</sub>	Isoprene	34.3	29.57 5.2	324		
630	C <sub>5</sub> H <sub>8</sub>	3-Methyl-1,2-butadiene	40.8	34.7 8.5	324		
631	C <sub>5</sub> H <sub>8</sub>	cis-1,3-Pentadiene	44.0	38.1 16 vol. %	291		
632	C <sub>5</sub> H <sub>8</sub>	trans-1,3-Pentadiene	42.0	36.5 15 vol. %	291		
		"	...	36.5 12.9 v-1	249		
633	C <sub>5</sub> H <sub>8</sub> O	1,3-Butadienyl methyl ether	90.7	62 57.5	335		
634	C <sub>5</sub> H <sub>10</sub>	3-Methyl-1-butene	21.2	17.9 4.28	v-1	249	
635	C <sub>5</sub> H <sub>10</sub>	2-Methyl-1-butene	32	27.4 8.1	v-1	249	
636	C <sub>5</sub> H <sub>10</sub>	2-Methyl-2-butene	37.7	33.1 11.2	v-1	249	
637	C <sub>5</sub> H <sub>10</sub>	1-Pentene	29.92	26.4 13 vol. %	291		
		"	30.1	26.3 8.92	v-1	249	
638	C <sub>5</sub> H <sub>10</sub>	cis-2-Pentene	37.1	31.8 7 vol. %	291		
639	C <sub>5</sub> H <sub>10</sub> O	2-Pantanone	102.2	Nonazeotrope	v-1	135	
640	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.7	64.0 70.2	335		
641	C <sub>5</sub> H <sub>12</sub>	2-Methylbutane	27.6	24.62 4	324		
		"	...	24.2 6.98	v-1	249	
642	C <sub>5</sub> H <sub>12</sub>	Pentane	36.15	30.85 7	324		
643	C <sub>5</sub> H <sub>12</sub> O	Amyl alcohol	137.8	Nonazeotrope	v-1	135	
644	C <sub>5</sub> H <sub>12</sub> O <sub>2</sub>	2,2-Dimethoxypropane	80	61-62 45	201		
645	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	58 38	v-1	182, 275	
		" 64.7 p.s.i.a.	108	102 49	v-1	275	
		" 112.7 p.s.i.a.	128	123 54	v-1	275	
		" 159.7 p.s.i.a.	141	138 58	v-1	275	
		" 209.7 p.s.i.a.	152	148 62	v-1	275	
		" 259.7 p.s.i.a.	161	159 65	v-1	275	
646	C <sub>6</sub> H <sub>8</sub> O	2,5-Dimethylfuran	93.3	61.5 51	335		
647	C <sub>6</sub> H <sub>10</sub>	1,3-Hexadiene	72.9	<58 ~40	80		
648	C <sub>6</sub> H <sub>10</sub>	2,4-Hexadiene	82	~58 ~40	80		
649	C <sub>6</sub> H <sub>10</sub>	3-Methyl-1,3- pentadiene	77	~58 ~40	80		
650	C <sub>6</sub> H <sub>12</sub>	Cyclohexane, <760 mm.	...	27.5 34	317		
		" <760 mm.	...	30 32.6	317		
		" <760 mm.	...	38 31.6	317		
		" <760 mm.	...	42 26.8	317		
651	C <sub>6</sub> H <sub>12</sub>	cis-3-Hexene	66.4	49.6 26 vol. %	291		
652	C <sub>6</sub> H <sub>12</sub> O	Butyl vinyl ether	94.2	62 52	335		
653	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	116.2	Nonazeotrope	v-1	135	
654	C <sub>6</sub> H <sub>14</sub>	2,2-Dimethylbutane	49.74	39.6 17 vol. %	291		
655	C <sub>6</sub> H <sub>14</sub>	2-Methylpentane	60.27	45.6 21 vol. %	291		
656	C <sub>6</sub> H <sub>14</sub>	3-Methylpentane	63.28	47.1 20 vol. %	291		

TABLE I BINARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
A =	$\text{CH}_4\text{O}$	Methanol (continued)	64.7			
657	$\text{C}_6\text{H}_{14}$	Hexane	68.95	49.5	26.4	175
	"	"	68.95	50.57	28	324
658	$\text{C}_6\text{H}_{14}\text{O}$	Butyl ethyl ether	92.2	62.6	56	335
659	$\text{C}_6\text{H}_{14}\text{O}_2$	1,1-Dimethoxybutane	114	Nonazeotrope		334
660	$\text{C}_6\text{H}_{14}\text{O}_2$	2,2-Dimethoxybutane	106-7	64.5	81.5	201
661	$\text{C}_7\text{H}_8$	Toluene	110.7	63.6	70.8	v-1
662	$\text{C}_7\text{H}_{14}$	<u>trans</u> -1,3-Dimethyl-cyclopentane	90.77	57.3	45 vol. %	291
663	$\text{C}_7\text{H}_{16}$	Heptane	98.4	58.8	46.1	174
	"	406 mm.	...	43.83	-	366
664	$\text{C}_7\text{H}_{16}$	2-Methylhexane	90.05	57.1	44 vol. %	291
665	$\text{C}_7\text{H}_{16}$	3-Methylhexane	91.85	57.6	44 vol. %	291
666	$\text{C}_7\text{H}_{16}$	2,2,3-Trimethylbutane	80.88	54.1	38 vol. %	291
667	$\text{C}_8\text{H}_{10}$	p-Xylene	138.35	64.0	5	84
668	$\text{C}_8\text{H}_{14}\text{O}$	2-Ethyl-2-hexenal	176	Nonazeotrope		334
669	$\text{C}_8\text{H}_{18}$	Octane	125.75	62.75	67.5	174
	"	406 mm.	...	47.65	-	366
670	$\text{C}_9\text{H}_{18}\text{O}$	2,6-Dimethyl-4-heptanone	169.4	Nonazeotrope		334
671	$\text{C}_9\text{H}_{20}$	Nonane, 406 mm.	...	48.93	-	366
	"	"	150.7	64.1	83.4	174
672	$\text{C}_{10}\text{H}_{22}$	Decane, 406 mm.	...	Nonazeotrope		366
	"	"	171.8	Nonazeotrope	v-1	249
673	$\text{C}_{11}\text{H}_{24}$	Undecane, 406 mm.	...	Nonazeotrope		366
A =	$\text{CH}_4\text{S}$	Methanethiol	6.00			
674	$\text{C}_4\text{H}_8$	2-Methylpropene, 95 p.s.i.a.	...	53	19.5	145
675	$\text{C}_4\text{H}_{10}$	2-Methylpropane	-11.70	-13.00	4.9	21
A =	$\text{CH}_4\text{N}$	Methylamine	-6			
676	$\text{C}_4\text{H}_6$	Butadiene	...	...	58	20
	"	5 atm.	...	...	74	20
	"	20 atm.	...	...	96	20
677	$\text{C}_4\text{H}_8$	1-Butene	...	...	50	20
	"	5 atm.	...	...	64	20
	"	20 atm.	...	...	74	20
A =	$\text{C}_2\text{ClF}$	Chloropentafluoroethane	-38.5			
678	$\text{C}_2\text{H}_4\text{F}_2$	1,1-Difluoroethane	-24.7	-41.3	83.8	198
A =	$\text{C}_2\text{Cl}_2\text{F}_4$	1,2-Dichlorotetrafluoroethane	...			
679	$\text{C}_4\text{H}_{10}$	Butane	-0.5	-2.2	59	102
A =	$\text{C}_2\text{Cl}_3\text{F}_3$	1,1,2-Trichlorotrifluoroethane	47.5			
680	$\text{C}_2\text{Cl}_4\text{F}_2$	1,1,2,2-Tetrachlorodifluoroethane	92.4	Nonazeotrope		96, 334
681	$\text{C}_2\text{H}_6\text{O}$	Ethyl alcohol	78.3	43.8	96.2	335
A =	$\text{C}_2\text{Cl}_4$	Tetrachloroethylene	121.1			
682	$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,2-Trichloroethane	113.65	112.9	26	197
683	$\text{C}_3\text{H}_6\text{O}$	Acetone	56.1	Nonazeotrope	v-1	64
684	$\text{C}_3\text{H}_8\text{O}$	Isopropyl alcohol	82.3	81.7	19	334
685	$\text{C}_4\text{H}_{10}\text{O}$	Butyl alcohol	117.7	110	68	334
A =	$\text{C}_2\text{HCl}_3$	Trichloroethylene	86.2			
686	$\text{C}_2\text{H}_4\text{Cl}_2$	1,2-Dichloroethane	83.45	82.2	39	197
687	$\text{C}_2\text{H}_4\text{O}_2$	Acetic acid	117.9	Nonazeotrope		334
688	$\text{C}_3\text{H}_6\text{Cl}_2$	1,2-Dichloropropane	96.3	Nonazeotrope		334
689	$\text{C}_4\text{H}_8\text{O}$	2-Butanone	79.6	Nonazeotrope		184
690	$\text{C}_4\text{H}_8\text{O}_2$	Ethyl acetate, 700-760 mm.	...	Nonazeotrope	v-1	274

No.	Formula	B-Component		Azeotropic Data			
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$\text{C}_2\text{H}_2$	Acetylene	-84				
691	$\text{C}_2\text{H}_4$	Ethylene	-103.7	...	18	293	
	"	Crit. press.	...	...	19	293	
	"	-35°, 0°, 40° F.	...	...	v-1	137	
692	$\text{C}_2\text{H}_6$	Ethane	-88.3	...	39	293	
	"	Crit. press.	...	...	44	293	
	"	-35°, 0°, 40° F.	...	...	v-1	137	
693	$\text{C}_3\text{H}_4$	Propyne, -50° to 35° C.	...	Nonazeotrope	v-1	28	
A =	$\text{C}_2\text{H}_2\text{Cl}_2$	<i>cis</i> -1,2-Dichloro-ethylene	60.3				
694	$\text{C}_2\text{H}_6\text{O}$	Ethyl alcohol	78.3	Calculated	v-1	5	
695	$\text{C}_3\text{H}_6\text{O}$	Acetone	56.4	61.9	73	5	
696	$\text{C}_3\text{H}_6\text{O}_2$	Ethyl formate	54.0	Nonazeotrope	v-1	5	
697	$\text{C}_3\text{H}_6\text{O}_2$	Methyl acetate	57.2	61.7	73	5	
698	$\text{C}_3\text{H}_8\text{O}_2$	Methylal	42.6	Nonazeotrope	v-1	103	
699	$\text{C}_4\text{H}_8\text{O}$	2-Butanone	79.6	Nonazeotrope	v-1	5	
700	$\text{C}_4\text{H}_8\text{O}$	Tetrahydrofuran	66.1	69.8	44.5	v-1	103
701	$\text{C}_6\text{H}_{14}\text{O}$	Isopropyl ether	68.0	Nonazeotrope	v-1	103	
A =	$\text{C}_2\text{H}_2\text{Cl}_2$	<i>trans</i> -1,2-Dichloro-ethylene	48.35				
702	$\text{C}_2\text{H}_6\text{O}$	Ethyl alcohol	78.3	Calculated	v-1	5	
703	$\text{C}_3\text{H}_6\text{O}$	Acetone	56.4	Nonazeotrope	v-1	5	
704	$\text{C}_3\text{H}_6\text{O}_2$	Ethyl formate	54.0	Nonazeotrope	v-1	5	
705	$\text{C}_3\text{H}_6\text{O}_2$	Methyl acetate	57.2	Nonazeotrope	v-1	5	
706	$\text{C}_3\text{H}_8\text{O}_2$	Methylal	42.6	48.6	79.3	v-1	103
707	$\text{C}_4\text{H}_8\text{O}$	2-Butanone	79.6	Nonazeotrope	v-1	5	
708	$\text{C}_4\text{H}_8\text{O}$	Tetrahydrofuran	66.1	Nonazeotrope	v-1	103	
709	$\text{C}_6\text{H}_{14}\text{O}$	Isopropyl ether	68.0	Nonazeotrope	v-1	103	
A =	$\text{C}_2\text{H}_3\text{Cl}$	Vinyl Chloride	13.4				
710	$\text{C}_2\text{H}_4\text{Cl}_2$	1,2-Dichloroethane	83.5	Nonazeotrope	334		
711	$\text{C}_3\text{H}_6\text{O}$	Acetone	56.1	Nonazeotrope	334		
A =	$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,1-Trichloroethane	74.1				
712	$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,2-Trichloroethane	113.9	Nonazeotrope	96		
713	$\text{C}_2\text{H}_4\text{Cl}_2$	1,1-Dichloroethane	57.4	Nonazeotrope	96		
A =	$\text{C}_2\text{H}_3\text{F}_3\text{O}$	2,2,2-Trifluoroethanol	...				
714	$\text{C}_2\text{H}_6\text{O}$	Ethyl alcohol	78.3	81.75	57.65	226	
A =	$\text{C}_2\text{H}_3\text{N}$	Acetonitrile	81.55				
715	$\text{C}_2\text{H}_4\text{Cl}_2$	1,2-Dichloroethane	83.15	~79.1	49	v-1	267
716	$\text{C}_3\text{H}_3\text{N}$	Acrylonitrile	77.1	Nonazeotrope	334		
717	$\text{C}_3\text{H}_6\text{O}$	Acetone, 45° C.	...	Nonazeotrope	v-1	25	
718	$\text{C}_3\text{H}_7\text{NO}$	<u>N</u> , <u>N</u> -Dimethylformamide	153	Nonazeotrope	334		
	"	100-500 mm.	...	Nonazeotrope	334		
719	$\text{C}_5\text{H}_{12}$	Pentane, 24 p.s.i.g.	65	58	13	334	
720	$\text{C}_6\text{H}_6$	Benzene, 278 mm.	...	45	30.7	v-1	22
721	$\text{C}_6\text{H}_7\text{N}$	2-Picoline	134	Nonazeotrope	v-1	247	
722	$\text{C}_7\text{H}_{16}$	Heptane	98.4	69.55	...	368	
723	$\text{C}_8\text{H}_{18}$	Octane	125.75	76.7	...	368	
724	$\text{C}_9\text{H}_{20}$	Nonane	150.7	79.82	...	368	
725	$\text{C}_{10}\text{H}_{22}$	Decane	173.3	81.45	...	368	
726	$\text{C}_{11}\text{H}_{24}$	Undecane	195.4	Nonazeotrope	368		
A =	$\text{C}_2\text{H}_4$	Ethylene	-103.7				
727	$\text{C}_2\text{H}_6$	Ethane, -35°, 0°, 40° F.	-88.3	...	v-1	137	
	"	0°, -40°, -100° F.	...	Nonazeotrope	v-1	129	
A =	$\text{C}_2\text{H}_4\text{Br}_2$	1,2-Dibromoethane	131.5				
728	$\text{C}_8\text{H}_{10}$	<i>m</i> -Xylene	139	Nonazeotrope	113		
729	$\text{C}_8\text{H}_{10}$	<i>p</i> -Xylene	138.4	131.0	94	113	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$C_2H_4Cl_2$	1,2-Dichloroethane	83.65				
730	$C_3H_6Cl_2$	1,2-Dichloropropane	96.3	Nonazeotrope	334		
731	$C_3H_8O$	Isopropyl alcohol	82.3	72.7	60.8	334	
732	$C_4H_8Cl_2O$	Bis(2-chloroethyl)ether	179.2	Nonazeotrope	334		
733	$C_6H_6$	Benzene	80.1	80.1	15 vol. %	235	
734	$C_6H_{12}$	Cyclohexane	80.75	74.7	38 vol. %	235	
735	$C_7H_{16}$	2,4-Dimethylpentane	80.8	73.7	35 vol. %	235	
A =	$C_2H_4O$	Acetaldehyde	20.2				
736	$C_2H_5Cl$	Chloroethane	12.3	11	9.5	96	
737	$C_3H_6O$	Propylene oxide, 35 p.s.i.g.	73	Nonazeotrope	334		
738	$C_4H_6O_2$	Vinyl acetate	72.5	Nonazeotrope	96		
739	$C_4H_8O$	Ethyl vinyl ether	35.5	Nonazeotrope	334		
740	$C_4H_{10}$	Butane	-0.5	-7	16	334	
741	$C_4H_{10}O$	Ethyl ether	34.5	18.9	76.5	243	
742	$C_6H_{14}O$	Isopropyl ether	68.3	Nonazeotrope	334		
A =	$C_2H_4O$	Ethylene Oxide	10.5				
743	$C_4H_{10}$	Butane	-0.5	-6.5	22	334	
A =	$C_2H_4O_2$	Acetic Acid	118.1				
744	$C_2H_6O$	Ethyl alcohol	78.3	Nonazeotrope	v-1	205, 285	
745	$C_3H_6O_2$	Propionic acid	140.7	Ideal system	v-1	48	
746	$C_3H_8O$	Propyl alcohol	97.25	Nonazeotrope	v-1	205, 285	
747	$C_4H_6O_3$	Acetic anhydride	139.9	Nonazeotrope	334		
748	$C_4H_8O_2$	p-Dioxane	...	119.4	79.5	180	
749	$C_4H_8O_2$	Ethyl acetate	76.7	Nonazeotrope	334		
750	$C_4H_9NO$	N,N-Dimethyl- acetamide	165	170.8	21.1	295	
751	$C_4H_{10}O$	Butyl alcohol	117.1	120.3	43	v-1	205, 285
752	$C_5H_5N$	Pyridine	115.5	138.1	51.1	373	
	"	Crit. press.	345	348	20.2	323	
753	$C_5H_{10}O_2$	Isopropyl acetate	88.7	Nonazeotrope	334		
754	$C_5H_{12}$	Pentane	36.15	Nonazeotrope	187		
755	$C_6H_7N$	2-Picoline	134	144.12	40.4	369	
756	$C_6H_{14}$	Hexane	68.7	Nonazeotrope	334		
	"		68.60	68.25	6.0	187, 189	
757	$C_6H_{14}O$	Isopropyl ether	68.3	Nonazeotrope	334		
758	$C_7H_9$	2,6-Lutidine	143.41	147.28	24	v-1	358
	"		144	148.1	22.9		364
	"			162.3	19.5		370
759	$C_7H_{16}$	Heptane	98.25	91.72	33	187, 189, 355, 373	
760	$C_8H_{10}$	$\alpha$ -Xylene	143.6	116.6	78	372	
761	$C_8H_{18}$	Octane	125.75	105.7	53.7	v-1	189, 355, 359
762	$C_9H_{12}$	Cumene	152.8	116	84	76	
763	$C_9H_{20}$	Nonane	150.2	112.8	69	187, 189, 355	
	"		150.2	113.25	69.6	324	
764	$C_{10}H_{16}$	Camphene, 100 mm.	...	60.6	90	v-1	294
765	$C_{10}H_{22}$	Decane	173.3	116.75	79.5	187, 189, 355	
	"		173.3	117.2	79	324	
	"		...	116.10	87	v-1	358
766	$C_{11}H_{24}$	Undecane	194.5	117.72	95	187, 189, 355	
	"		194.5	117.17	78	324	
767	$C_{12}H_{20}O_2$	Isobornyl acetate	225.8	Ideal system	v-1	294	
768	$C_{12}H_{26}$	Dodecane	216	Nonazeotrope		187	
A =	$C_2H_5Cl$	Chloroethane	12.4				
769	$C_4H_{10}$	n-Butane	-0.5	...	15.6	255	
	"	738.6 mm.	-0.5	-1.4	20.2	v-1	263

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	$\text{C}_2\text{H}_5\text{ClO}$	2-Chloroethanol	128.7				
770	$\text{C}_4\text{H}_7\text{ClO}$	2-Chloroethyl vinyl ether, 120 mm.	...	55.62	14	341	
771	$\text{C}_4\text{H}_8\text{Cl}_2\text{O}$	Bis(2-chloroethyl)ether, 50 mm.	96	Nonazeotrope	334		
		"	179.2	Nonazeotrope	334		
772	$\text{C}_4\text{H}_8\text{O}_2$	p-Dioxane	101.3	Nonazeotrope	334		
<b>A =</b>	$\text{C}_2\text{H}_5\text{NO}$	Acetamide	222				
773	$\text{C}_{11}\text{H}_{10}$	2-Methylnaphthalene	241.1	...	55	98	
<b>A =</b>	$\text{C}_2\text{H}_5\text{NO}_2$	Nitroethane	114.07				
774	$\text{C}_2\text{H}_6\text{O}$	Ethyl alcohol	78.32	78.03	12.6	55	
775	$\text{C}_3\text{H}_8\text{O}$	Isopropyl alcohol	82.40	81.82	10.6	55	
776	$\text{C}_3\text{H}_8\text{O}$	Propyl alcohol	97.15	94.49	31.8	55	
777	$\text{C}_4\text{H}_{10}\text{C}$	Butyl alcohol	117.75	107.94	58.6	55	
778	$\text{C}_4\text{H}_{10}\text{O}$	sec-Butyl alcohol	99.53	97.16	27.6	55	
779	$\text{C}_4\text{H}_{10}\text{O}$	tert-Butyl alcohol	82.41	82.22	4.5	55	
780	$\text{C}_4\text{H}_{10}\text{O}$	Isobutyl alcohol	107.89	102.68	40.8	55	
<b>A =</b>	$\text{C}_2\text{H}_6$	Ethane					
781	$\text{C}_7\text{F}_{16}$	Perfluorooctane, crit. region		Nonazeotrope	v-1	155	
<b>A =</b>	$\text{C}_2\text{H}_6\text{O}$	Ethyl Alcohol	78.3				
782	$\text{C}_3\text{H}_6\text{O}$	Acetone	56.4	Nonazeotrope	v-1	7,	134
783	$\text{C}_3\text{H}_7\text{NO}_2$	1-Nitropropane	131.18	Nonazeotrope	55		
784	$\text{C}_3\text{H}_7\text{NO}_2$	2-Nitropropane	120.25	78.28	93.6	55	
785	$\text{C}_3\text{H}_8\text{O}$	Isopropyl alcohol	82.3	Nonazeotrope	v-1	116	
786	$\text{C}_4\text{H}_8\text{O}$	2-Butanone	79.6	74.0	39	v-1	134
		"	79.6	74.8	34		334
787	$\text{C}_4\text{H}_8\text{O}$	Butyraldehyde	75.7	70.7	60.6	335	
788	$\text{C}_4\text{H}_8\text{O}$	Ethyl vinyl ether	35.5	Nonazeotrope	334		
789	$\text{C}_4\text{H}_8\text{O}_2$	p-Dioxane, 200 mm.	...	46.4	68	v-1	124
		" 400 mm.	...	62.4	82		124
		" 600 mm.	...	72.19	88		124
		" 760 mm.	...	78.25	>98		124
790	$\text{C}_4\text{H}_8\text{O}_2$	Ethyl acetate, 40°-60° C.		% Alc. increases with press.	v-1	228	
		" 77.4 mm.	...	15.95		117	
		" 760 mm.	...	30.97		117	
		"	77.05	72.18	25.8		228
791	$\text{C}_4\text{H}_{10}\text{O}$	Butyl alcohol	117.75	Nonazeotrope	v-1	134	
792	$\text{C}_4\text{H}_{10}\text{O}$	sec-Butyl alcohol	99.4	Nonazeotrope	v-1	134	
793	$\text{C}_4\text{H}_{10}\text{O}_2$	2-Ethoxyethanol	134	Nonazeotrope	v-1	335	
794	$\text{C}_4\text{H}_{11}\text{N}$	Butylamine	77.8	82.2	49	335	
795	$\text{C}_4\text{H}_{11}\text{N}$	Diethylamine	55.5	Nonazeotrope	334		
796	$\text{C}_5\text{H}_8\text{O}_2$	Ethyl acrylate, 100 mm.	44.9	32	54.4	335	
797	$\text{C}_5\text{H}_{10}$	2-Methyl-1-butene	31.10	30.1	22 vol. %	291	
798	$\text{C}_5\text{H}_{10}\text{O}$	Isopropyl vinyl ether, 737 mm.	54.8	52.6	...	334	
799	$\text{C}_5\text{H}_{10}\text{O}$	2-Pentanone	102.35	78	93.3	v-1	134
800	$\text{C}_5\text{H}_{10}\text{O}$	Propyl vinyl ether	65.1	60	18.4	334	
801	$\text{C}_5\text{H}_{12}\text{O}$	Amyl alcohol	137.8	Nonazeotrope	v-1	134	
802	$\text{C}_5\text{H}_{12}\text{O}$	Butyl methyl ether	70.3	65.5	20	334	
803	$\text{C}_5\text{H}_{12}\text{O}_2$	2,2-Dimethoxypropane	80	Min. b.p.		201	
804	$\text{C}_6\text{H}_6$	Benzene, 310 mm.	...	45	26.2	v-1	22
		" 180 mm.	...	32.5	23.2	v-1	240
		" 400 mm.	...	51.2	28.1	v-1	240
		" 168.4 mm.	...	29.97	21.33	v-1	328
		" 233.5 mm.	...	38.37	23.72		328
		" 336.4 mm.	...	47.15	26.32		328
		" 584 mm.	...	61.06	30.35		328
		" 209 mm.	...	35.0	24.3		256
		" 760 mm.	80.1	67.9	31.7	v-1	191,
							344

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
A =	$C_2H_6O$	Ethyl Alcohol (continued)	78.3			
804	$C_6H_6$	Benzene (continued)				
	"	5570 mm.	...	132.9	56	256
	"	11,720 mm.	...	166.9	69.5	256
	"	19,160 mm.	...	191.1	81	256
805	$C_6H_7N$	Aniline	184.35	...	...	v-1 138
806	$C_6H_{10}$	1,3-Hexadiene	72.9	Min. b.p.	...	80
807	$C_6H_{10}$	2,4-Hexadiene	82	Min. b.p.	...	80
808	$C_6H_{10}$	3-Methylcyclopentene	64.9	57.2	20 vol. %	291
809	$C_6H_{10}$	3-Methyl-1,3-pentadiene	77	Min. b.p.	...	80
810	$C_6H_{12}$	Cyclohexane, 296 mm.	...	41.2	25.5	316
	"	420 mm.	...	49.3	27.3	316
	"	643 mm.	...	60.8	29.8	316
	"	760 mm.	...	64.8	31.3	316
	"	760 mm.	80.8	64.9	40	147
811	$C_6H_{12}$	2-Ethyl-1-butene	64.95	57.0	23 vol. %	291
812	$C_6H_{12}$	1-Hexene	63.49	56.1	22 vol. %	291
813	$C_6H_{12}$	cis-2-Hexene	68.8	59.5	22 vol. %	291
814	$C_6H_{12}$	cis-3-Hexene	66.4	49.6	26 vol. %	291
815	$C_6H_{12}$	Methylcyclopentane	72.0	60.05	22.7 v-1	304
816	$C_6H_{12}$	cis-3-Methyl-2-pentene	70.52	60.4	24 vol. %	291
817	$C_6H_{12}$	trans-3-Methyl-2-pentene	67.6	58.8	20 vol. %	291
818	$C_6H_{12}$	trans-4-Methyl-2-pentene	58.4	52.6	15 vol. %	291
819	$C_6H_{12}O$	Butyl vinyl ether	94.2	73	48	335
820	$C_6H_{12}O$	Isobutyl vinyl ether	83.4	69.2	33	335
821	$C_6H_{12}O_3$	Paraldehyde	124.5	Nonazeotrope	334	
822	$C_6H_{14}$	Hexane	68.95	58	20.8 v-1	304
	"	1545 mm.	...	...	26.3 vol. %	251
823	$C_6H_{14}$	2-Methylpentane	60.27	53.1	12 vol. %	291
824	$C_6H_{14}O$	Ethyl butyl ether	92.2	73.8	49.3	335
825	$C_6H_{14}O$	Isopropyl ether	68.3	64	17.1	335
826	$C_6H_{14}O_2$	1,2-Diethoxyethane	121.1	Nonazeotrope	334	
827	$C_6H_{15}N$	Triethylamine	89.7	76.9	51	335
828	$C_7H_8$	Toluene	110.7	76.5	66.7 v-1	138, 191
	"	327 mm.	...	76.2	117	
	"	800 mm.	...	81.6	117	
829	$C_7H_{12}$	1,3-Heptadiene	...	Min. b.p.	...	80
830	$C_7H_{12}$	2,4-Heptadiene	...	Min. b.p.	...	80
831	$C_7H_{14}$	1,1-Dimethylcyclopentane	87.85	68.0	37 vol. %	291
832	$C_7H_{14}$	cis-1,2-Dimethylcyclopentane	99.53	72.1	46 vol. %	291
833	$C_7H_{14}$	trans-1,2-Dimethylcyclopentane	91.87	69.6	39 vol. %	291
834	$C_7H_{14}$	cis-1,3-Dimethylcyclopentane	91.73	69.5	38 vol. %	291
835	$C_7H_{14}$	trans-1,3-Dimethylcyclopentane	90.77	69.1	37 vol. %	291
836	$C_7H_{14}$	2,3-Dimethyl-1-pentene	84.2	67.1	35 vol. %	291
837	$C_7H_{14}$	Ethylcyclopentane	103.47	73.1	48 vol. %	291
838	$C_7H_{14}$	1,1,2,2-Tetramethylcyclopropane	75.9	62.6	30 vol. %	291
839	$C_7H_{16}$	2,2-Dimethylpentane	79.20	63.9	25 vol. %	291
840	$C_7H_{16}$	2,3-Dimethylpentane	89.78	68.6	34 vol. %	291
841	$C_7H_{16}$	2,4-Dimethylpentane	80.50	64.6	29 vol. %	291
842	$C_7H_{16}$	3,3-Dimethylpentane	86.07	67.1	38 vol. %	291
843	$C_7H_{16}$	3-Ethylpentane	93.47	70	38 vol. %	291
844	$C_7H_{16}$	Heptane	98.4	72	48 v-1	138, 239, 335
	"	180 mm.	...	37.5	43	v-1 158

No.	Formula	Name	B-Component		Azeotropic Data			
			B.P., °C.	B.P., °C.	Wt.%A	Ref.		
<b>A =</b>	<b>C<sub>2</sub>H<sub>6</sub>O</b>	<b>Ethyl Alcohol (continued)</b>		<b>78.3</b>				
844	C <sub>7</sub> H <sub>16</sub>	Heptane (continued)						
		" 400 mm.	...	54.5	43	v-1	158	
		" 750 mm.	...	71.0	45	v-1	158	
845	C <sub>7</sub> H <sub>16</sub>	2-Methylhexane	90.05	68.7	36 vol. %	291		
846	C <sub>7</sub> H <sub>16</sub>	3-Methylhexane	91.85	69.3	36 vol. %	291		
847	C <sub>8</sub> H <sub>16</sub>	1,1-Dimethylcyclohexane	119.54	76.2	65 vol. %	291		
848	C <sub>8</sub> H <sub>16</sub>	cis-1,4-Dimethylcyclohexane	124.32	76.9	70 vol. %	291		
849	C <sub>8</sub> H <sub>16</sub>	trans-1,3-Dimethylcyclohexane	124.45	76.9	70 vol. %	291		
850	C <sub>8</sub> H <sub>16</sub>	trans-1,4-Dimethylcyclohexane	119.35	76.2	64 vol. %	291		
851	C <sub>8</sub> H <sub>16</sub>	1-Ethyl-1-methylcyclopentane	121.52	76.5	66 vol. %	291		
852	C <sub>8</sub> H <sub>16</sub>	1,cis-2,trans-3-Trimethylcyclopentane	117.5	75.9	62 vol. %	291		
853	C <sub>8</sub> H <sub>16</sub>	1,trans-2,cis-4-Trimethylcyclopentane	109.29	74.3	52 vol. %	291		
854	C <sub>8</sub> H <sub>16</sub>	2,4,4-Trimethyl-2-pentene	104.91	73.9	50 vol. %	291		
855	C <sub>8</sub> H <sub>18</sub>	2,2-Dimethylhexane	106.84	73.6	46 vol. %	291		
856	C <sub>8</sub> H <sub>18</sub>	2,3-Dimethylhexane	115.61	75.5	57 vol. %	291		
857	C <sub>8</sub> H <sub>18</sub>	3,4-Dimethylhexane	117.73	75.8	60 vol. %	291		
858	C <sub>8</sub> H <sub>18</sub>	2-Methylheptane	117.65	75.8	59 vol. %	291		
859	C <sub>8</sub> H <sub>18</sub>	3-Methylheptane	118.93	76.0	61 vol. %	291		
860	C <sub>8</sub> H <sub>18</sub>	4-Methylheptane	117.71	75.8	61 vol. %	291		
861	C <sub>8</sub> H <sub>18</sub>	2,2,3-Trimethylpentane	109.84	74.3	53 vol. %	291		
862	C <sub>8</sub> H <sub>18</sub>	2,2,4-Trimethylpentane	99.24	71.8	40 vol. %	291		
863	C <sub>8</sub> H <sub>18</sub>	2,3,3-Trimethylpentane	114.76	75.3	56 vol. %	291		
864	C <sub>8</sub> H <sub>18</sub>	2,3,4-Trimethylpentane	113.47	75.1	57 vol. %	291		
865	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1	Nonazeotrope		334		
866	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-Ethyl-1,3-hexanediol	243.1	Nonazeotrope		334		
<b>A =</b>	<b>C<sub>2</sub>H<sub>6</sub>OS</b>	<b>Dimethylsulfoxide</b>						
867	C <sub>6</sub> H <sub>6</sub>	Benzene, 25°-70°	...	V.p. curve		164		
<b>A =</b>	<b>C<sub>2</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>Ethylene Glycol</b>		<b>197.4</b>				
868	C <sub>3</sub> H <sub>4</sub> O <sub>3</sub>	Ethylene carbonate,						
		10 mm.	...	88	13.9	262		
		" 25 mm.	...	107	7.5	262		
		" 50 mm.	...	122	2.6	262		
		" 72 mm.	...	163	0	262		
869	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub> O	Bis(2-chloroethyl)ether, 50 mm.	96	92.7	...	335		
		"	178.6	164	17.8	60		
870	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	2-Vinylxyethanol	143	...	13	94		
871	C <sub>4</sub> H <sub>8</sub> O <sub>3</sub>	Ethylene glycol monoacetate	...	Nonazeotrope		147		
		" 150 mm.	...	Nonazeotrope		147		
872	C <sub>5</sub> H <sub>12</sub> O <sub>3</sub>	2-(2-Methoxyethoxy)ethanol	194	...	30	284, 335		
		" 50 mm.	115	114	4	335		
		" 200 mm.	151	149	12	335		
873	C <sub>6</sub> H <sub>7</sub> N	Aniline, 37.1 mm.	...	95	8.75	v-1	59	
		" 104.7 mm.	...	120	12.7	v-1	59	
		" 257.9 mm.	...	145	16.8	v-1	59	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$C_2H_6O_2$	Ethylene Glycol (continued)	197.4				
874	$C_6H_{12}O$	Hexyl alcohol	157.1	Nonazeotrope		334	
875	$C_6H_{14}O_3$	2-(2-Ethoxyethoxy) ethanol	202.8	192	45.5	284,	335
		" 100 mm.	137.3	134	33		335
		" 36 mm.	...	108.5	26.6		243
876	$C_7H_8$	Toluene	110.6	110.1	2.3		335
877	$C_7H_8O$	Benzyl alcohol	205.2	193.1	56		60
878	$C_7H_8O$	o-Cresol	191	189.52	26		188
879	$C_7H_9N$	N-Methylaniline, 31.8 mm.	...	95	22.9	v-1	59
		" 95.3 mm.	...	120	26.6	v-1	59
		" 244 mm.	...	145	30.0	v-1	59
880	$C_8H_{10}$	o-Xylene	144.4	135.7	6.9		335
881	$C_8H_{11}N$	N,N-Dimethylaniline, 39.3 mm.	...	95	17.6	v-1	59
		" 115 mm.	...	120	21.8	v-1	59
		" 293 mm.	...	145	26.5	v-1	59
882	$C_8H_{11}N$	s-Collidine	171.3	170.5	9.7		188
883	$C_8H_{10}O$	Butyl ether	142.1	139.5	6.4	334,	335
884	$C_8H_{10}O_3$	2-(2-Butoxyethoxy) ethanol	230.6	Min. b.p.			284
885	$C_8H_{19}NO$	2-Diisopropylamino- ethanol, 10 mm.	79	74	10		335
		" 50 mm.	111	104	15		335
		" 100 mm.	127	121	18		335
886	$C_9H_{14}O$	Phorone	197.8	184.5	42		59
887	$C_{10}H_8$	Naphthalene	217.9	183.6	46		147
888	$C_{10}H_{20}OS$	2-Hexylthioethyl vinyl ether	...	Min. b.p.			329
889	$C_{10}H_{22}O_4$	Tripropylene glycol methyl ether	243	192	82	v-1	76
		"	...	138.5	77.2		76
		"	...	111.5	75.1		76
890	$C_{12}H_{10}O$	Phenyl ether, 50 mm.	161.0	120.4	62.3		335
		"	259.3	192.3	64.5		59
891	$C_{12}H_{26}O$	Hexyl ether, 50 mm.	137.0	112.8	35.6		335
892	$C_{14}H_{10}$	Anthracene	340	197	98.3		305
893	$C_{16}H_{34}O$	2-Ethylhexyl ether, 10 mm.	135	87	...		335
A =	$C_2H_6S$	Methyl Sulfide	37.32				
894	$C_3H_{10}$	Cyclopentane	49.35	37.09	87.5		70
895	$C_5H_{10}$	2-Methyl-2-butene	38.60	34.83	53.6		70
896	$C_5H_{10}$	2-Methyl-1-butene	31.25	30.64	17.0		70
897	$C_5H_{12}$	2-Methylbutane	27.90	26.62	25.0		70
898	$C_5H_{12}$	Pentane	36.15	31.80	46.6		70
899	$C_6H_{14}$	2,2-Dimethylbutane	49.70	36.50	79.8		70
A =	$C_2H_6S_2$	Methyl Disulfide	109.44				
900	$C_5H_6S$	2-Methylthiophene	111.92	Nonazeotrope			70
901	$C_5H_{12}S$	Ethyl isopropyl sulfide	107.22	106.37	...		70
902	$C_7H_8$	Toluene	110.85	108.93	...		70
903	$C_7H_{14}$	Methylcyclohexane	101.05	98.92	28.6		70
904	$C_7H_{16}$	Heptane	98.40	96.44	26.3		70
905	$C_8H_{16}$	trans-1,3-Dimethyl- cyclohexane	120.30	107.22	73.3		70
906	$C_8H_{18}$	2,3-Dimethylhexane	109.15	102.84	48.2		70
907	$C_8H_{18}$	2-Methylheptane	117.70	106.22	69.5		70
A =	$C_2H_7N$	Dimethylamine	7.4				
908	$C_4H_11NO$	2-(Dimethylamino) ethanol	134.6	Nonazeotrope			334

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
A =	C <sub>2</sub> H <sub>7</sub> N	Ethylamine	16.6			
	C <sub>4</sub> H <sub>11</sub> N	Diethylamine	55.5	Nonazeotrope		334
	C <sub>4</sub> H <sub>11</sub> NO <sub>2</sub>	2,2'-Iminodiethanol	...	Nonazeotrope		334
A =	C <sub>2</sub> H <sub>7</sub> NO	2-Aminoethanol	171.0			
	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	Nonazeotrope		334
	C <sub>4</sub> H <sub>11</sub> NO <sub>2</sub>	2,2'-Iminodiethanol, 10 mm.	150	Nonazeotrope		334
A =	C <sub>2</sub> H <sub>8</sub> N <sub>2</sub>	Ethylenediamine	116.9			
	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	p-Dioxane	101.3	Nonazeotrope		334
	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	124.7	35.7	335
	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.9	120.5	50	335
	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotrope		334
	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	104	30.8	76
	"	"	...	103	30	334
A =	C <sub>3</sub> HF <sub>5</sub> O <sub>2</sub>	Pentafluoropropionic Acid	...			
	C <sub>6</sub> F <sub>14</sub>	Perfluorohexane, 25° C.	...	Nonazeotrope	v-1	237
A =	C <sub>3</sub> H <sub>2</sub> ClF <sub>3</sub> O <sub>2</sub>	3-Chloro-2,2,3- trifluoropropionic Acid	...			
	C <sub>3</sub> H <sub>7</sub> NO	N,N-Dimethylform- amide, 20 mm.	...	115-120	...	93
A =	C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> O <sub>2</sub>	2,2,3,3-Tetrafluoro- propionic Acid	...			
	C <sub>3</sub> H <sub>7</sub> NO	N,N-Dimethylform- amide, 20 mm.	...	40	67	93
A =	C <sub>3</sub> H <sub>3</sub> ClF <sub>3</sub> NO	3-Chloro-2,2,3- trifluoropropionamide	...			
	C <sub>3</sub> H <sub>7</sub> NO	N,N-Dimethylform- amide, 20 mm.	...	101-106	...	93
A =	C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> NO	2,2,3,3-Tetrafluoro- propionamide	...			
	C <sub>3</sub> H <sub>7</sub> NO	N,N-Dimethylform- amide, 20 mm.	...	91-4	66	93
	"	"	153	187	...	93
A =	C <sub>3</sub> H <sub>3</sub> N	Acrylonitrile	77.2			
	C <sub>3</sub> H <sub>5</sub> N	Propionitrile	97.4	Nonazeotrope		334
A =	C <sub>3</sub> H <sub>4</sub>	Propadiene	-32			
	C <sub>3</sub> H <sub>4</sub>	Propyne	-23.2	Nonazeotrope		334
	C <sub>3</sub> H <sub>6</sub>	Propene	-47.7	Nonazeotrope		334
	C <sub>3</sub> H <sub>8</sub>	Propane	-42.1	-42	11.6 vol. %	334
	C <sub>4</sub> H <sub>6</sub>	1,3-Butadiene	-4.5	Nonazeotrope		334
	C <sub>3</sub> H <sub>4</sub>	Propyne	-23.2			
A =	C <sub>3</sub> H <sub>6</sub>	Propene	-47.7	Nonazeotrope		334
	C <sub>3</sub> H <sub>8</sub>	Propane	-42.1	-42	11.7 vol. %	334
	C <sub>4</sub> H <sub>6</sub>	1,3-Butadiene	-4.5	Nonazeotrope		334
	C <sub>3</sub> H <sub>4</sub> Cl <sub>4</sub>	Tetrachloropropene	...			
A =	C <sub>3</sub> H <sub>8</sub> Cl <sub>4</sub>	Tetrachloropentane, 12-150 mm.	...	Nonazeotrope	v-1	250
	C <sub>6</sub> H <sub>6</sub>					
A =	C <sub>3</sub> H <sub>4</sub> O	2-Propyn-1-ol	115			
	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	78	9	95
A =	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	Acrylic Acid	141.2			
	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acrylate	99.3	Nonazeotrope		334

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data			
		Name	B.P., °C.	B.P., °C.	Wt. %A	Ref.	
A = 934	C <sub>3</sub> H <sub>5</sub> Cl C <sub>3</sub> H <sub>7</sub> Cl	3-Chloropropene 2-Chloropropane	45.15 34.9	Nonazeotrope	v-1	83	
A = 935	C <sub>3</sub> H <sub>5</sub> ClO C <sub>5</sub> H <sub>7</sub> ClO	2-Chloro-2-propen-1-ol 2-Chlorallyl vinyl ether	...	...	10	341	
A = 936	C <sub>3</sub> H <sub>5</sub> ClO C <sub>3</sub> H <sub>5</sub> Cl <sub>3</sub>	Epichlorohydrin 1,2,3-Trichloropropane	116.45 156.85	Nonazeotrope	v-1	337	
A = 937	C <sub>3</sub> H <sub>6</sub> C <sub>3</sub> H <sub>8</sub>	Propene Propane, 10°--190° F.	-48 ...	Nonazeotrope	v-1	128	
A = 938	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> C <sub>3</sub> H <sub>6</sub> O	1,2-Dichloropropane Propylene oxide, 20 p.s.i.g.	96.3 60	Nonazeotrope	334		
	939 C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	1,2-Propanediol	187.3	Nonazeotrope	334		
A = 940	C <sub>3</sub> H <sub>6</sub> O C <sub>3</sub> H <sub>8</sub> O	Acetone Isopropyl alcohol	56.5 82.3	Nonazeotrope	v-1	45, 46	
941	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Diketene	...	Nonazeotrope	334		
942	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Vinyl acetate	72.7	Nonazeotrope	334		
943	C <sub>4</sub> H <sub>7</sub> Cl	1-Chloro-2-methyl- propene	68	55.6	81	241	
944	C <sub>4</sub> H <sub>8</sub> O	2-Butanone, 15-500 p.s.i.a.	...	Nonazeotrope	v-1	254, 334	
945	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Isopropenyl acetate	96.5	Nonazeotrope	147		
946	C <sub>5</sub> H <sub>10</sub>	1-Pentene	29.97	28.9	19 vol. %	291	
947	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.7	Nonazeotrope	334		
948	C <sub>5</sub> H <sub>12</sub>	Pentane " <100 mm.	36.15 ...	32.5	20	131	
949	C <sub>6</sub> H <sub>6</sub>	Benzene, 45° C. "	...	Nonazeotrope	v-1	23	
			80.1	Nonazeotrope	v-1	36	
950	C <sub>6</sub> H <sub>12</sub>	Cyclohexane "	80.75 80.75	53.0	67.5	v-1	186
				...	67		256
951	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane	72.0	...	57	256	
952	C <sub>6</sub> H <sub>12</sub>	1,1,2-Trimethyl- cyclopropane	52.6	42.3	32 vol. %	291	
953	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	115.9	Nonazeotrope	v-1	157	
954	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.2	Nonazeotrope	v-1	63	
955	C <sub>6</sub> H <sub>14</sub>	2,3-Dimethylbutane	58.0	...	46.5	256	
956	C <sub>6</sub> H <sub>14</sub>	Hexane	68.95	49.8	59	256, 334	
957	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	...	89.5	256	
A = 958	C <sub>3</sub> H <sub>6</sub> O	Allyl Alcohol	96.6				
	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	Nonazeotrope	v-1	172	
959	C <sub>5</sub> H <sub>8</sub> O	Allyl vinyl ether "	...	...	10	341	
			67.4	66.6	5	334	
960	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Allyl acetate	...	95.1	63	1	
961	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.8	74.0	58	147	
962	C <sub>6</sub> H <sub>14</sub>	Hexane	68.8	...	12.5	176	
963	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	Nonazeotrope	334		
A = 964	C <sub>3</sub> H <sub>6</sub> O C <sub>3</sub> H <sub>8</sub> O	Propionaldehyde Propylene oxide, 30 p.s.i.g.	48.7 69	Nonazeotrope	334		
965	C <sub>5</sub> H <sub>6</sub> O	2-Methylfuran	63.7	Nonazeotrope	270		
A = 966	C <sub>3</sub> H <sub>6</sub> O C <sub>4</sub> H <sub>10</sub> O	Propylene Oxide Ethyl ether	35 34.5	32.6	49.6	243	
A = 967	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub> C <sub>7</sub> H <sub>8</sub>	1,3-Dioxolane Toluene	75.6 110.6	Nonazeotrope	334		
968	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	72.3	81	334	

No.	Formula	Name	B-Component		Azeotropic Data			
			B.P., °C.	B.P., °C.	Wt.%A	Ref.		
<b>A =</b>	<b>C<sub>3</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>1,3-Dioxolane (continued)</b>	<b>75.6</b>					
969	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1	Nonazeotrope		334		
970	C <sub>9</sub> H <sub>20</sub>	Nonane	150.8	Nonazeotrope		334		
<b>A =</b>	<b>C<sub>3</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>Ethyl Formate</b>	<b>54.1</b>					
971	C <sub>3</sub> H <sub>7</sub> Br	2-Bromopropane	59.35	53.0	59.4	195, 252		
<b>A =</b>	<b>C<sub>3</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>Methyl Acetate</b>	<b>56.95</b>					
972	C <sub>3</sub> H <sub>7</sub> Br	2-Bromopropane	59.35	55.6	14.5	195		
973	C <sub>5</sub> H <sub>6</sub> O	2-Methylfuran	...	Nonazeotrope		270		
974	C <sub>5</sub> H <sub>8</sub>	Cyclopentene	44.4	41.7	27.7	126		
975	C <sub>5</sub> H <sub>10</sub>	Cyclopentane	49.3	43.2	37.9	126		
976	C <sub>5</sub> H <sub>10</sub>	1-Pentene	30.1	30.0	3.3	126		
977	C <sub>5</sub> H <sub>12</sub>	Pentane	36.08	34.05	22	126		
978	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	56.7	99.7	126		
979	C <sub>6</sub> H <sub>8</sub>	1,3-Cyclohexadiene	80.25	56.7	98.0	126		
980	C <sub>6</sub> H <sub>10</sub>	Cyclohexene	83.1	56.5	90.2	126		
981	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.6	54.9	83.0	126		
982	C <sub>6</sub> H <sub>12</sub>	2,3-Dimethyl-1-butene	55.62	48.95	42.8	126		
983	C <sub>6</sub> H <sub>12</sub>	2,3-Dimethyl-2-butene	73.38	55.1	71.8	126		
984	C <sub>6</sub> H <sub>12</sub>	3,3-Dimethyl-1-butene	41.4	39.9	8.8	126		
985	C <sub>6</sub> H <sub>12</sub>	2-Ethyl-1-butene	64.8	52.8	60.1	126		
986	C <sub>6</sub> H <sub>12</sub>	1-Hexene	63.58	52.5	63.6	126		
987	C <sub>6</sub> H <sub>12</sub>	cis-2-Hexene	68.55	53.7	69.8	126		
988	C <sub>6</sub> H <sub>12</sub>	3-Methyl-2-pentene	70.64	54.45	73.7	126		
989	C <sub>6</sub> H <sub>12</sub>	4-Methyl-1-pentene	54.0	48.3	36.7	126		
990	C <sub>6</sub> H <sub>12</sub>	trans-4-Methyl- 2-pentene	58.45	50.0	51.3	126		
991	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane	71.8	53.0	68.0	126		
992	C <sub>6</sub> H <sub>14</sub>	2,2-Dimethylbutane	49.65	43.7	38.2	126		
993	C <sub>6</sub> H <sub>14</sub>	2,3-Dimethylbutane	58.05	48.0	48.25	126		
994	C <sub>6</sub> H <sub>14</sub>	Hexane	68.85	51.75	60.7	126		
995	C <sub>6</sub> H <sub>14</sub>	2-Methylpentane	60.2	49.25	51.6	126		
996	C <sub>6</sub> H <sub>14</sub>	3-Methylpentane	63.25	50.05	57.4	126		
997	C <sub>7</sub> H <sub>16</sub>	2,4-Dimethylpentane	80.7	54.7	72.4	126		
998	C <sub>7</sub> H <sub>16</sub>	Heptane	98.45	56.65	96.45	126		
999	C <sub>7</sub> H <sub>16</sub>	2-Methylhexane	90.0	56.0	88.6	126		
1000	C <sub>7</sub> H <sub>16</sub>	3-Methylhexane	91.85	56.3	84.9	126		
1001	C <sub>7</sub> H <sub>16</sub>	2,2,3-Trimethylbutane	80.9	55.1	74.2	126		
<b>A =</b>	<b>C<sub>3</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>Propionic Acid</b>	<b>140.7</b>					
1002	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	Acetic anhydride	138	Nonazeotrope	v-1	250		
1003	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	148.6	67.2	370		
1004	C <sub>5</sub> H <sub>11</sub> NO	N,N-Dimethylpropion- amide	175.5	179.3	23.6	295		
1005	C <sub>6</sub> H <sub>14</sub>	Hexane	68.85	Nonazeotrope		189		
1006	C <sub>7</sub> H <sub>16</sub>	Heptane	98.15	97.82	2.0	189		
1007	C <sub>8</sub> H <sub>18</sub>	Octane	125.12	120.89	24	189		
		"	125.12	...	24.2	v-1	154	
		" Satd. with Na propionate	...	...	6	v-1	154	
1008	C <sub>9</sub> H <sub>20</sub>	Nonane	150.67	134.27	54	189		
1009	C <sub>10</sub> H <sub>22</sub>	Decane	174.06	139.76	80.5	189		
1010	C <sub>11</sub> H <sub>24</sub>	Undecane	193.85	Nonazeotrope		189		
<b>A =</b>	<b>C<sub>3</sub>H<sub>6</sub>O<sub>3</sub></b>	<b>Methyl Glycolate</b>	<b>151.2</b>					
1011	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136.15	Min. b.p.	...	52		
1012	C <sub>8</sub> H <sub>10</sub>	m-Xylene	139	Min. b.p.	...	52		
<b>A =</b>	<b>C<sub>3</sub>H<sub>6</sub>O<sub>3</sub></b>	<b>S-Trioxane</b>	<b>114.5</b>					
1013	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Min. b.p.	...	52		
<b>A =</b>	<b>C<sub>3</sub>H<sub>7</sub>ClO</b>	<b>Propylene Chlorhydrin</b>	<b>73/100</b>					
1014	C <sub>6</sub> H <sub>12</sub> Cl <sub>2</sub> O	Bis(chloroisopropyl) ether, 100 mm.	121.9	Nonazeotrope		334		

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
<b>A =</b>	<b>C<sub>3</sub>H<sub>7</sub>NO</b>	<b>N,N-Dimethylformamide</b>	<b>153</b>			
1015	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotrope		52
<b>A =</b>	<b>C<sub>3</sub>H<sub>7</sub>NO</b>	<b>Propionamide</b>	<b>222.1</b>			
1016	C <sub>10</sub> H <sub>22</sub>	Decane, 50 mm.	...	88	3	26
		" 100 mm.	...	106	5	26
		" 200 mm.	...	126	7.5	26
		" 760 mm.	173.3	168	11.8	26
1017	C <sub>11</sub> H <sub>24</sub>	Undecane, 50 mm.	...	105	15	26
		" 100 mm.	...	123	16	26
		" 200 mm.	...	142	17.3	26
		" 760 mm.	194.5	183	21	26
1018	C <sub>12</sub> H <sub>26</sub>	Dodecane, 50 mm.	...	115	26	26
		" 100 mm.	...	132	26	26
		" 200 mm.	...	152	26	26
		" 760 mm.	216	193	31.6	26
<b>A =</b>	<b>C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>1-Nitropropane</b>	<b>131.18</b>			
1019	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.40	Nonazeotrope		55
1020	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.15	96.95	8.8	55
1021	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.73	115.30	32.2	55
1022	C <sub>4</sub> H <sub>10</sub> O	sec-Butyl alcohol	99.53	99.40	4.1	55
1023	C <sub>4</sub> H <sub>10</sub> O	tert-Butyl alcohol	82.41	Nonazeotrope		55
1024	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.89	105.28	15.2	55
<b>A =</b>	<b>C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub></b>	<b>2-Nitropropane</b>	<b>120.25</b>			
1025	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.40	82.24	4.2	55
1026	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.15	95.97	24.9	55
1027	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.73	111.61	52.4	55
1028	C <sub>4</sub> H <sub>10</sub> O	sec-Butyl alcohol	99.53	98.70	18.0	55
1029	C <sub>4</sub> H <sub>10</sub> O	tert-Butyl alcohol	82.41	Nonazeotrope		55
1030	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.89	105.28	33.1	55
<b>A =</b>	<b>C<sub>3</sub>H<sub>8</sub>O</b>	<b>Isopropyl Alcohol</b>	<b>82.3</b>			
1031	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Vinyl acetate	72.7	70.8	22.4	335
1032	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	p-Dioxane	...	...	v-1	47
1033	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Ethyl acetate	77.05	75.9	25	228
		" 40°-60° C.	...	...	v-1	228
1034	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Methyl propionate	79.6	77	28	335
1035	C <sub>4</sub> H <sub>9</sub> Cl	1-Chloro-2-methyl-				
		propane	68.9	63.8	19	335
1036	C <sub>4</sub> H <sub>10</sub> O	Ethyl ether	34.6	Nonazeotrope		334
1037	C <sub>4</sub> H <sub>11</sub> N	Butylamine	77.8	84.7	60	335
1038	C <sub>5</sub> H <sub>10</sub> O	Isopropyl vinyl ether	...	...	16.5	341
1039	C <sub>5</sub> H <sub>10</sub> O	2-Pentanone	102.35	Nonazeotrope	v-1	11
1040	C <sub>6</sub> H <sub>6</sub>	Benzene, 155 mm.	...	31.8	20.6	316
		" 243 mm.	...	41.8	23.6	316
		" 509 mm.	...	60.4	29.9	316
		" 607 mm.	...	65.3	31.4	316
		" 760 mm.	...	71.74	33.7	316
		" 196 mm.	...	37.2	22.4	256
		" 512 mm.	...	60.3	30	256
		" 4920 mm.	...	134.7	62	256
		" 10,180 mm.	...	166.3	79	256
		" 15,380 mm.	...	186.1	91	256
1041	C <sub>6</sub> H <sub>10</sub>	1,3-Hexadiene	72.9	Min. b.p.		80
1042	C <sub>6</sub> H <sub>10</sub>	2,4-Hexadiene	82	Min. b.p.		80
1043	C <sub>6</sub> H <sub>10</sub>	3-Methyl-1,3-pentadiene	77	Min. b.p.		80
1044	C <sub>6</sub> H <sub>10</sub> O	Mesityl oxide	128.3	Nonazeotrope		334
1045	C <sub>6</sub> H <sub>12</sub>	Cyclohexane, 129 mm.	...	26.3	18.3	316
		" 270 mm.	...	42.5	23.3	316
		" 434 mm.	...	54.1	27.1	316
		" 549 mm.	...	60.2	29.2	316
		" 760 mm.	...	69.4	32	316
1046	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	115.9	Nonazeotrope		11
1047	C <sub>6</sub> H <sub>15</sub> N	Diisopropylamine	84.1	79.7	40	335

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
<b>A =</b>	<b>C<sub>3</sub>H<sub>8</sub>O</b>	<b>Isopropyl Alcohol (continued)</b>	<b>82.3</b>			
1048	C <sub>6</sub> H <sub>13</sub> N	Hexylamine	132.7	Nonazeotrope		334
1049	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	...	52	327
	"		110.6	80.6	69	335
1050	C <sub>8</sub> H <sub>14</sub>	Diisobutylene	102.3	77.8	54.5	335
1051	C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1,2-Dimethyl-cyclohexane	123.42	81.4	79 vol. %	291
1052	C <sub>8</sub> H <sub>16</sub>	<u>cis</u> -1-Ethyl-2-methyl-cyclopentane	128.05	82.2	83 vol. %	291
1053	C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1-Ethyl-2-methylcyclopentane	121.2	81.6	76 vol. %	291
1054	C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1-Ethyl-3-methylcyclopentane	120.8	81.4	75 vol. %	291
1055	C <sub>8</sub> H <sub>16</sub>	1,1,2-Trimethylcyclopentane	113.73	80.4	66 vol. %	291
1056	C <sub>8</sub> H <sub>16</sub>	1,1,3-Trimethylcyclopentane	104.89	78.5	53 vol. %	291
1057	C <sub>8</sub> H <sub>16</sub>	1, <u>cis</u> -2, <u>trans</u> -3-Trimethylcyclopentane	117.5	81.1	71 vol. %	291
1058	C <sub>8</sub> H <sub>16</sub>	1, <u>cis</u> -2, <u>trans</u> -4-Trimethylcyclopentane	116.73	80.9	71 vol. %	291
1059	C <sub>8</sub> H <sub>18</sub>	2,2,4-Trimethylpentane	99.3	77.3	48.5 v-1	29
<b>A =</b>	<b>C<sub>3</sub>H<sub>8</sub>O</b>	<b>Propyl Alcohol</b>	<b>97.25</b>			
1060	C <sub>3</sub> H <sub>8</sub> S	1-Propanethiol, 766 mm.	67.8	66.4	8.65	181
1061	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate, 40°-60° C.	77.05	Nonazeotrope	v-1	228
1062	C <sub>5</sub> H <sub>10</sub> O	3-Pentanone	101.8	94.9	57	334
1063	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Propyl acetate	101.6	94.7	49	v-1 264
	"	200 mm.	...	59.96	31.4	v-1 306
	"	400 mm.	...	77.06	39.2	v-1 306
	"	600 mm.	...	88.04	44.8	v-1 306
	"	760 mm.	...	94.7	48.9	v-1 306
1064	C <sub>6</sub> H <sub>5</sub> Cl	Chlorobenzene	132	96.5	80	334
1065	C <sub>6</sub> H <sub>6</sub>	Benzene, 239 mm.	...	45	10.5	v-1 24
	"	44.7-309.7 p.s.i.g.	...	Effect of press.	v-1	277
	"	123 mm.	...	28.0	8.0	316, 344
	"	289 mm.	...	49.8	11.6	316, 344
	"	423 mm.	...	59.9	13.6	316, 344
	"	610 mm.	...	70.1	15.7	316, 344
	"	760 mm.	...	77.10	17.1	316, 344
	"	342 mm.	...	53.7	12.3	256
	"	573 mm.	...	68.6	15.3	256
	"	2420 mm.	...	117.6	27.5	256
	"	5020 mm.	...	147.5	37	256
	"	10,050 mm.	...	183.8	50.5	256
	"	18,200 mm.	...	218.3	66.1	256
1066	C <sub>6</sub> H <sub>12</sub>	Cyclohexane, 161 mm.	...	33.8	9.9	316
	"	250 mm.	...	44.3	11.8	316
	"	429 mm.	...	58.0	15.0	316
	"	560 mm.	...	65.4	16.5	316
	"	760 mm.	...	74.69	18.5	316
	"	4-15 atm.	...	Effect of press.		278
1067	C <sub>6</sub> H <sub>12</sub> O	2-Methylpentanal	118.3	95	86	334
1068	C <sub>6</sub> H <sub>16</sub> OSi	(Trimethylsiloxy)propane, 735 mm.	100.3	87.5	...	193
1069	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	...	50.5	327
	"		110.6	92.6	49	334
	"		110.7	92.6	51.5 v-1	202
1070	C <sub>8</sub> H <sub>8</sub>	Styrene, 50 mm.	...	38.5	84	v-1 211
	"		...	% PrOH increases with press.		211

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt. %A	Ref.
<b>A =</b>	$C_3H_8O$	Propyl Alcohol (continued)	97.25			
1071	$C_8H_{10}$	Ethylbenzene, 50 mm.	...	% PrOH increases with press.		211
1072	$C_8H_{10}$	p-Xylene	138.4	...	92	327
<b>A =</b>	$C_3H_8OS$	2-(Methylthio)ethanol		...		
1073	$C_5H_{10}OS$	2-Methylthioethyl vinyl ether, 22 mm.	...	75	20	329
<b>A =</b>	$C_3H_8O_2$	2-Methoxyethanol	124.5			
1074	$C_6H_6$	Benzene	80.1	Nonazeotrope	v-1	331
1075	$C_6H_{12}$	Cyclohexane	80.7	Nonazeotrope		334
	"		77.5	15	v-1	331
1076	$C_7H_{14}$	trans-2-Heptene	98.0	92.9	19 vol. %	291
1077	$C_7H_{16}O_2$	1-tert-Butoxy-2- methoxyethane	...	119	45	76
1078	$C_8H_8$	Styrene, 57 mm.	67.9	54.8	62 vol. %	291
	"	62 mm.	...	56.8	50.1 v-1	152
1079	$C_8H_{10}$	Ethylbenzene, 62 mm.	...	51.9	34.3 v-1	152
1080	$C_8H_{10}$	p-Xylene	138.35	119.3	54 vol. %	291
1081	$C_8H_{12}$	4-Vinylcyclohexene, 57 mm.	...	44.4	30 vol. %	291
1082	$C_8H_{16}$	cis-1,3-Dimethyl- cyclohexane	120.9	105.6	36 vol. %	291
1083	$C_8H_{16}$	trans-1-Ethyl-2- methylcyclopentane	121.2	106.3	32 vol. %	291
1084	$C_8H_{16}$	trans-1-Ethyl-3- methylcyclopentane	120.8	106.0	35 vol. %	291
1085	$C_8H_{16}$	1,1,3-Trimethyl- cyclopentane	104.89	96.7	20 vol. %	291
1086	$C_8H_{16}$	1,cis-2,cis-3-Tri- methylcyclopentane	123.0	107.4	35 vol. %	291
1087	$C_8H_{16}$	1,trans-2,cis-3-Tri- methylcyclopentane	110.2	100.2	20 vol. %	291
1088	$C_8H_{16}$	2,4,4-Trimethyl- 1-pentene	101.44	95.5	20 vol. %	291
1089	$C_9H_{18}$	2,4-Dimethylhexane	109.43	99.3	26 vol. %	291
1090	$C_9H_{18}$	2,2,3-Trimethylpentane	109.84	99.7	25 vol. %	291
1091	$C_9H_{18}$	1,1,3-Trimethyl- cyclohexane	136.6	113.1	41 vol. %	291
1092	$C_9H_{20}$	2,2,3,4-Tetramethyl- pentane	133.02	111.4	39 vol. %	291
1093	$C_9H_{20}$	2,3,4-Trimethylhexane	139.0	113.5	39 vol. %	291
1094	$C_9H_{20}$	2,3,5-Trimethylhexane	131.34	110.6	40 vol. %	291
<b>A =</b>	$C_3H_8O_2$	1,2-Propanediol	187.8			
1095	$C_5H_{10}O_2$	3-Vinyloxypropanol	...	Min. b.p.		94
1096	$C_6H_6$	Benzene	80.1	Nonazeotrope		334
1097	$C_6H_{14}O_3$	Dipropylene glycol, 10 mm.	...	Nonazeotrope	v-1	60
1098	$C_7H_8$	Toluene	110.6	110.5	1.5	335
1099	$C_8H_8O$	Coumarone	173	Azeo. distillation		120
1100	$C_8H_{10}$	o-Xylene	144.4	135.8	10	335
1101	$C_8H_{18}O$	Butyl ether	142.1	136	...	334, 335
1102	$C_{10}H_8$	Naphthalene	218.1	Azeo. distillation		120
1103	$C_{10}H_{22}O_4$	Tripropylene glycol methyl ether, 50 mm.	...	Nonazeotrope		76
1104	$C_{12}H_{26}$	Dodecane	216	175	67	60
1105	$C_{14}H_{30}$	Tetradecane	252.5	179	76	60
1106	$C_{16}H_{34}O$	Bis(2-ethylhexyl) ether, 10 mm.	135	84	...	335
<b>A =</b>	$C_3H_8O_2$	1,3-Propanediol	214			
1107	$C_5H_{10}O_2$	3-Vinyloxy-1- propanol	...	...	10-15	94

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
<b>A =</b>	<b>C<sub>3</sub>H<sub>8</sub>S</b>	<b>Ethyl Methyl Sulfide</b>	<b>66.61</b>			
1108	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.35	Nonazeotrope		70
1109	C <sub>6</sub> H <sub>12</sub>	1-Hexene	63.50	62.71	29.4	70
1110	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane	71.85	65.59	64.1	70
1111	C <sub>6</sub> H <sub>14</sub>	2,3-Dimethylbutane	58.10	57.41	18.7	70
1112	C <sub>6</sub> H <sub>14</sub>	Hexane	68.75	63.94	56.6	70
1113	C <sub>7</sub> H <sub>16</sub>	2,2-Dimethylpentane	79.20	66.37	88.2	70
<b>A =</b>	<b>C<sub>3</sub>H<sub>9</sub>BO<sub>3</sub></b>	<b>Trimethyl Borate</b>	<b>68.7</b>			
1114	C <sub>4</sub> H <sub>8</sub> O	Tetrahydrofuran	65	Nonazeotrope	v-1	115
<b>A =</b>	<b>C<sub>3</sub>H<sub>9</sub>N</b>	<b>Isopropylamine</b>	<b>32.4</b>			
1115	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	Nonazeotrope		334
<b>A =</b>	<b>C<sub>3</sub>H<sub>9</sub>NO</b>	<b>1-Amino-2-propanol</b>	<b>159.9</b>			
1116	C <sub>6</sub> H <sub>5</sub> Cl	Chlorobenzene	131	128.30	13	259
1117	C <sub>6</sub> H <sub>15</sub> NO <sub>2</sub>	1,1'-Iminodi-2-propanol, 100 mm.	185	Nonazeotrope		334
1118	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	110	5	259
1119	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	96.6	6	334
<b>A =</b>	<b>C<sub>3</sub>H<sub>10</sub>N<sub>2</sub></b>	<b>1,2-Propanediamine</b>	<b>120.9</b>			
1120	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	126.5	49	335
1121	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.9	123	65	335
1122	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	105	32	334
<b>A =</b>	<b>C<sub>4</sub>Cl<sub>3</sub>F<sub>7</sub></b>	<b>2,2,3-Trichloro-heptafluorobutane</b>	<b>97.4</b>			
1123	C <sub>5</sub> Cl <sub>2</sub> F <sub>6</sub>	1,2-Dichlorohexa-fluorocyclopentene	90.6	Nonazeotrope	v-1	354
1124	C <sub>7</sub> H <sub>16</sub>	Heptane	98.53	92.3	76	v-1 354
1125	C <sub>6</sub> F <sub>10</sub> O	Perfluorocyclic oxide	102.6	96.35	67	v-1 354
<b>A =</b>	<b>C<sub>4</sub>HF<sub>7</sub>O<sub>2</sub></b>	<b>Perfluorobutyric Acid</b>	<b>122.0</b>			
1126	C <sub>6</sub> H <sub>10</sub>	Ethylbenzene	136.15	115.4	80	52
1127	C <sub>8</sub> H <sub>10</sub>	m-Xylene	139	117.5	83	52
1128	C <sub>8</sub> H <sub>10</sub>	p-Xylene	138.4	117.6	82	52
<b>A =</b>	<b>C<sub>4</sub>H<sub>2</sub>O<sub>3</sub></b>	<b>Maleic Anhydride</b>				
1129	C <sub>8</sub> H <sub>10</sub>	m-Xylene, 150 mm.	...	Nonazeotrope		334
1130	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	Dibutyl phthalate, 50 mm.	238	Nonazeotrope		334
<b>A =</b>	<b>C<sub>4</sub>H<sub>4</sub></b>	<b>Vinylacetylene</b>	...			
1131	C <sub>4</sub> H <sub>5</sub> Cl	2-Chloro-1,3-butadiene, 740 mm.	...	Nonazeotrope	v-1	151
<b>A =</b>	<b>C<sub>4</sub>H<sub>4</sub>O<sub>2</sub></b>	<b>Diketene</b>	...			
1132	C <sub>7</sub> H <sub>8</sub>	Toluene, 60 mm.	...	41	10	84
<b>A =</b>	<b>C<sub>4</sub>H<sub>4</sub>S</b>	<b>Thiophene</b>	<b>83.97</b>			
1133	C <sub>4</sub> H <sub>10</sub> S	2-Butanethiol	85.15	82.27	...	70
1134	C <sub>4</sub> H <sub>10</sub> S	Isopropyl methyl sulfide	84.76	83.42	...	70
1135	C <sub>6</sub> H <sub>6</sub>	Benzene	80.10	Nonazeotrope		70
1136	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.85	77.90	41.2	70
1137	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane	71.85	71.47	14.0	70
1138	C <sub>6</sub> H <sub>14</sub>	Hexane	68.75	68.46	11.2	70
1139	C <sub>7</sub> H <sub>14</sub>	trans-1,3-Dimethyl-cyclopentane	90.80	82.00	67.7	70
1140	C <sub>7</sub> H <sub>16</sub>	2,3-Dimethylpentane	89.90	80.90	64	70
1141	C <sub>7</sub> H <sub>16</sub>	2,4-Dimethylpentane	80.55	76.58	42.7	70
1142	C <sub>7</sub> H <sub>16</sub>	Heptane	98.40	83.09	83.2	70

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$C_4H_5Cl$	2-Chloro-1,3-butadiene	...				
1143	$C_4H_6Cl_2$	1,3-Dichloro-2-butene, " 100 mm. " 340 mm.	...	Nonazeotrope	v-1	151	
1144	$C_4H_6O$	3-Butene-2-one, " 100 mm. " 340 mm.	...	Nonazeotrope	v-1	151	
A =	$C_4H_6O_2$	2,3-Butanedione	90.7				
1145	$C_4H_6O$	2-Butanone	79.6	Nonazeotrope	334		
A =	$C_4H_6O_2$	Vinyl Acetate	72.7				
1146	$C_4H_{10}O$	Butyl alcohol	117.7	Nonazeotrope	334		
1147	$C_6H_{12}$	Cyclohexane	80.7	67.4	61.3	334	
1148	$C_7H_{16}$	Heptane	98.4	72	83.5	334	
1149	$C_8H_{18}O$	Butyl ether	142.1	Nonazeotrope	334		
A =	$C_4H_6O_3$	Acetic Anhydride	139.9				
1150	$C_5H_8O_2$	Isopropenyl acetate	97.4	Nonazeotrope	334		
1151	$C_5H_{10}O_2$	Isopropyl acetate	88.7	Nonazeotrope	334		
1152	$C_6H_{14}O$	Isopropyl ether	68.3	Nonazeotrope	334		
A =	$C_4H_7ClO$	2-Chloroethyl Vinyl Ether	109.1				
1153	$C_5H_{12}O$	Isoamyl alcohol " 50 mm.	131.8 67	109 39	99 99	335	
A =	$C_4H_8Cl_2O$	Bis(2-chloroethyl Ether)	178.65				
1154	$C_4H_{10}O_3$	Diethylene glycol	245.5	174.6	92	60	
1155	$C_7H_{16}O$	3-Heptanol	156.4	141.2	28	334	
1156	$C_8H_{18}O$	2-Ethyl-1-hexanol, 50 mm.	109	96	90	335	
A =	$C_4H_8O$	2-Butanone	79.6				
1157	$C_4H_8O_2$	Isopropyl formate	68.8	Nonazeotrope	310		
1158	$C_4H_9Cl$	1-Chloro-2-methyl-propane	68.8	Nonazeotrope	310		
1159	$C_4H_{10}O$	<u>sec</u> -Butyl alcohol " 374 mm.	99.5 ...	Nonazeotrope Nonazeotrope	v-1 v-1	8 8	
1160	$C_5H_6O$	2-Methylfuran	...	Nonazeotrope	v-1	310	
1161	$C_6H_6$	Benzene	80.1	78.1	47	v-1	74
	"	14.7 p.s.i.a.	...	78.2	45	v-1	321
	"	66.7 p.s.i.a.	...	133.0	67.6	v-1	321
	"	118.0 p.s.i.a.	...	160.7	90.0	v-1	321
	"	125.0 p.s.i.a.	...	Nonazeotrope	v-1	321	
1162	$C_6H_6O$	Phenol, 200-760 mm.	...	Nonazeotrope	v-1	33	
1163	$C_6H_8O$	2,5-Dimethylfuran	93.3	Nonazeotrope	334		
1164	$C_6H_{12}$	Cyclohexane, 14.7 p.s.i.a. " 66.7 p.s.i.a. " 118.0 p.s.i.a. " 125.0 p.s.i.a.	...	71.0 128.7 156.4 182.5 80.85 80.85 80.85	52.5 61.0 64.0 69.0 45.5 44 42	321 321 321 321 186 73 256	
	"	80.85	71.6	45.5			
	"	80.85	71.5	44			
	"	80.85	...	42			
1165	$C_6H_{14}$	2,3-Dimethylbutane	58	...	15.1	256	
1166	$C_6H_{14}$	Hexane	68.95	...	29.6	256	
1167	$C_7H_{14}$	Methylcyclohexane	101.15	...	80	256	
1168	$C_7H_{16}$	Heptane	98.4	...	73	256	
1169	$C_8H_{18}$	2,5-Dimethylhexane	109.4	...	95	256	
A =	$C_4H_8O$	Butyraldehyde	74.8				
1170	$C_4H_8O$	Isobutyraldehyde	69.5	Nonazeotrope	96		
1171	$C_4H_8O_2$	Butyric acid	163.3	Nonazeotrope	334		

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>O</b>	<b>Butyraldehyde (continued)</b>	<b>74.8</b>				
1172	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.9	Nonazeotrope	334		
1173	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	1,1-Dimethoxyethane	64.5	Nonazeotrope	334		
1174	C <sub>6</sub> H <sub>10</sub> O	Mesityl oxide	128.3	Nonazeotrope	334		
1175	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	60	26	334	
1176	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Dimethoxybutane	114	Nonazeotrope	334		
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>Butyric Acid</b>	<b>162.45</b>				
1177	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	163.2	92	370	
1178	C <sub>6</sub> H <sub>13</sub> NO	N,N-Dimethylbutyramide, 100 mm.	124.5	130	32.6	295	
1179	C <sub>11</sub> H <sub>24</sub>	Undecane	194.5	162.4	84.5	370	
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>p-Dioxane</b>	<b>101.3</b>				
1180	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	Nonazeotrope	v-1	215	
1181	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	108	101.3	...	208	
1182	C <sub>6</sub> H <sub>6</sub>	Benzene, 200-760 mm.	...	Nonazeotrope	v-1	124	
1183	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	Nonazeotrope	334		
1184	C <sub>7</sub> H <sub>8</sub>	Toluene, 200-760 mm.	...	Nonazeotrope	v-1	124	
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>Ethyl Acetate</b>	<b>77.05</b>				
1185	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol, 100-760 mm.	...	...	...	v-1	316
1186	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	2-Ethoxyethanol	135.1	Nonazeotrope	v-1	220	
1187	C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde	161.45	Nonazeotrope	350		
1188	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotrope	v-1	43, 44	
1189	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	71.6	56	v-1	43, 44
		" 233 mm.	...	38.7	50.1	316	
		" 301 mm.	...	45.1	51	316	
		" 415 mm.	...	53.6	52.3	316	
		" 581 mm.	...	63.0	54.1	316	
		" 756 mm.	...	71.1	55.3	316	
1190	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.1	Nonazeotrope	334		
1191	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	2-Butoxyethanol	171.1	Nonazeotrope	334		
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>Isobutyric Acid</b>	<b>154.7</b>				
1192	C <sub>5</sub> H <sub>8</sub> O <sub>3</sub>	Methyl acetoacetate	171.7	Nonazeotrope	334		
1193	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136.15	133.0	8.8	84	
		" 30 mm.	...	48.0	0.8	84	
1194	C <sub>8</sub> H <sub>10</sub>	Mixed xylenes	...	133.0	10.0	84	
		" 56 mm.	...	62	1.0	84	
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>Propyl Formate</b>	<b>80.9</b>				
1195	C <sub>6</sub> H <sub>14</sub>	Hexane	68.95	63.6	29.5	324	
<b>A =</b>	<b>C<sub>4</sub>H<sub>8</sub>S</b>	<b>Tetrahydrothiophene</b>	<b>120.79</b>				
1196	C <sub>6</sub> H <sub>14</sub> S	Isopropyl sulfide	119.25	118.40	...	70	
1197	C <sub>7</sub> H <sub>8</sub>	Toluene	110.85	Nonazeotrope	70		
1198	C <sub>8</sub> H <sub>16</sub>	trans-1,3-Dimethylcyclohexane	120.30	115.90	43.1	70	
1199	C <sub>8</sub> H <sub>16</sub>	Ethylcyclohexane	131.85	120.46	80.7	70	
1200	C <sub>8</sub> H <sub>18</sub>	2,5-Dimethylhexane	109.15	107.95	16.8	70	
1201	C <sub>8</sub> H <sub>18</sub>	2-Methylheptane	117.70	113.96	38.2	70	
1202	C <sub>8</sub> H <sub>18</sub>	Octane	125.70	117.79	60.3	70	
<b>A =</b>	<b>C<sub>4</sub>H<sub>9</sub>Cl</b>	<b>1-Chlorobutane</b>	<b>77.9</b>				
1203	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	Nonazeotrope	v-1	335	
<b>A =</b>	<b>C<sub>4</sub>H<sub>9</sub>Cl<sub>3</sub>Sn</b>	<b>Butyltin Trichloride</b>	<b>113/17</b>				
1204	C <sub>8</sub> H <sub>18</sub> Cl <sub>2</sub> Sn	Dibutyltin dichloride, 17 mm.	157	Nonazeotrope	334		
1205	C <sub>12</sub> H <sub>27</sub> Cl <sub>2</sub> Sn	Tributyltin chloride, 17 mm.	166	Nonazeotrope	334		

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A = 1206 1207	$C_4H_9NO$	Morpholine	128.3				
	$C_8H_{18}O$	Butyl ether	142.1	126.7	73		334
	$C_9H_{18}O$	2,6-Dimethyl-4-heptanone	169.4	128	98		334
A = 1208	$C_4H_9NO_3$	2-Methyl-2-nitro-1-Propanol	...				
	$C_6H_{11}NO_3$	2-Methyl-2-nitro-propyl vinyl ether, 10 mm.	...	71-81	8.6		341
A = 1209 1210	$C_4H_{10}O$	Butyl Alcohol	117.75				
	$C_4H_{10}O$	<u>sec</u> -Butyl alcohol	99.5				334
	$C_4H_{10}O$	Isobutyl alcohol, to crit. region	107			v-1	75, 334
1211	$C_4H_{10}O$	" 750 mm.	...			v-1	335
		Ethyl ether, to crit. region	34.5			v-1	75
1212	$C_4H_{10}S$	1-Butanethiol, 770 mm.	98	97.8	14.84		181
1213	$C_4H_{11}N$	Butylamine	77.1				334
1214	$C_5H_6N$	Pyridine	115.5	118.6	69	v-1	141
1215	$C_5H_8O_2$	Methyl methacrylate	99.8				147
1216	$C_6H_6$	Benzene, 45°	...			v-1	24
		"	80.1			v-1	344, 362
1217	$C_6H_{12}$	Cyclohexane	80.8	79.8	9.5	147,	335
1218	$C_6H_{12}O$	Butyl vinyl ether	94.2	93.3	7.8		335
1219	$C_6H_{12}O$	Hexaldehyde	128.3	116.8	77.1		335
1220	$C_6H_{12}O_2$	Butyl acetate, 50 mm.	...		27.3		117
		"	126.2	117.6	67.2	117,	335
1221	$C_6H_{14}$	Hexane	68.95	68.2	3.2	174,	335
1222	$C_6H_{14}O_2$	2-Butoxyethanol	171.1			v-1	335
1223	$C_7H_8$	Toluene	110.7	105.5	27.5	v-1	377
		" 200 mm.	...	66.8	17.7	v-1	124
		" 400 mm.	...	85.45	22.9	v-1	124
		" 600 mm.	...	97.7	26.5	v-1	124
		" 760 mm.	...	105.3	29.7	v-1	124
1224	$C_7H_{12}O_2$	Butyl acrylate, 100 mm.	69.77	69	75		334
		" 20 mm.	...	39	87.7		76
		" 150 mm.	...	77	92.2		76
		"	147	117	98.2		76
1225	$C_7H_{16}$	Heptane	98.4	93.85	18	174,	175
		"	98.4	~94	~16	v-1	141
1226	$C_7H_{18}SiO$	(Trimethylsiloxy)butane	...				193
1227	$C_8H_{10}$	Ethylbenzene, 50 mm.	...	...	36.3	v-1	92
		" 100 mm.	...	63.65	42.1	v-1	92
		" 300 mm.	...	...	51.0	v-1	92
		" 500 mm.	...	...	59.7	v-1	92
		" 760 mm.	136.15	115.85	65.1	v-1	92
1228	$C_8H_{18}$	Octane	125.75	108.45	43.2	174,	175
1229	$C_8H_{18}O$	Butyl ether	142.1	117.6	82.5		335
1230	$C_8H_{19}N$	Dibutylamine	159.6				334
1231	$C_9H_{20}$	Nonane	150.7	115.9	71.5	174,	175
A = 1232 1233 1234 1235 1236 1237	$C_4H_{10}O$	<u>sec</u> -Butyl Alcohol	99.5				
	$C_6H_{12}O_2$	Butyl acetate	126.1				334
	$C_6H_{12}O_2$	<u>sec</u> -Butyl acetate	112.2				334
	$C_7H_{14}$	Methylcyclohexane	101.5	89.7	38.2	v-1	352
	$C_7H_{16}$	Heptane	98.4	88.1	36.7	v-1	352
	$C_8H_{14}$	Diisobutylene	102.3	91	35		37
	$C_8H_{18}$	Iso-octane	99.3	88.0	33.8	v-1	352

No.	Formula	B-Component		Azeotropic Data			
		Name	B.P., °C.	B.P., °C.	Wt. %A	Ref.	
A = 1238	$C_4H_{10}O$ $C_6H_6$	Isobutyl Alcohol Benzene	107 80.1	78.36 28.4	12 2.7	111 316	
	"	111 mm.	...	45.0	4.2	316	
	"	240 mm.	...	67.4	6.4	316	
	"	525 mm.	...	79.3	7.4	316	
	"	760 mm.	80.1	59.5	6.0	256	
	"	206 mm.	...	79.4	7.9	256	
	"	394 mm.	...	159.9	21.0	256	
	"	759 mm.	80.1	207.5	33	256	
	"	5420 mm.	...				
	"	12,930 mm.	...				
A = 1239	$C_4H_{10}O$ $C_8H_{18}O$	Ethyl Ether Butyl ether, 600 mm.	34.5 142.4	Ideal system	v-1	257	
A = 1240	$C_4H_{10}O_2$ $C_6H_{14}O$	1,2-Dimethoxyethane Isopropyl ether	85.2 68.3	Nonazeotrope		334	
A = 1241	$C_4H_{10}O_2$ $C_6H_{12}O_2$	1,4-Butanediol 4-Vinylxylobutanol	230 ...	Min. b.p.	...	94	
A = 1242	$C_4H_{10}O_2$ $C_5H_8O_2$	2-Ethoxyethanol Methyl methacrylate	134.0 99.8	Nonazeotrope		147	
1243	$C_5H_{10}O_2$	Propyl acetate	101.6	Nonazeotrope	v-1	220	
1244	$C_6H_{12}O_2$	Butyl acetate	126.2	125.7	13	v-1	221
1245	$C_6H_{14}N_2$	2,5-Dimethylpiperazine	164	Nonazeotrope		334	
1246	$C_6H_{14}O_3$	2-(2-Ethoxyethoxy) ethanol	202.8	Nonazeotrope		334	
1247	$C_8H_8$	Styrene, 50 mm.	...	59.8	42.5	v-1	110
1248	$C_8H_{10}$	Ethylbenzene, 50 mm.	...	53.9	27.6	v-1	110
	"	57 mm.	60.62	50.0	42 vol. %	291	
	"	735 mm.	134.9	126.2	43.3	v-1	167
	"		136.15	128	45	v-1	227
1249	$C_8H_{10}$	m-Xylene, 735 mm.	137.9	127.7	48.9	v-1	167
1250	$C_8H_{10}$	o-Xylene, 735 mm.	143.1	129.6	57.2	v-1	167
1251	$C_8H_{10}$	p-Xylene, 735 mm.	137.4	127.3	47.9	v-1	167
1252	$C_8H_{16}$	trans-1,2-Dimethyl- cyclohexane	123.42	115.6	27 vol. %	291	
1253	$C_8H_{16}$	Ethylcyclohexane	131.78	120.2	33 vol. %	291	
1254	$C_8H_{16}$	cis-2-Octene	125.6	117.9	28 vol. %	291	
1255	$C_8H_{18}$	2,5-Dimethylhexane	109.10	105.1	16 vol. %	291	
1256	$C_8H_{18}$	3,3-Dimethylhexane	111.97	107.1	17 vol. %	291	
1257	$C_8H_{18}$	3-Ethyl-3-methyl- pentane	118.26	111.7	23 vol. %	291	
1258	$C_8H_{18}$	Octane	125.75	122.5	33.6	v-1	227
1259	$C_9H_{12}$	o-Ethyltoluene	165.15	135.0	91 vol. %	291	
1260	$C_9H_{12}$	Mesitylene, 735 mm.	163.4	133.7	85.7	v-1	167
1261	$C_9H_{18}$	Butylcyclopentane	156.56	130.2	61 vol. %	291	
1262	$C_9H_{18}$	Isobutylcyclopentane	147.6	127.4	49 vol. %	291	
1263	$C_9H_{18}$	Isopropylcyclohexane	154.5	129.6	56 vol. %	291	
1264	$C_9H_{18}$	1-Nonene	146.87	128.1	48 vol. %	291	
1265	$C_9H_{18}$	Propylcyclohexane	156.72	130.2	59 vol. %	291	
1266	$C_9H_{20}$	3,3-Diethylpentane	146.17	126.4	45 vol. %	291	
1267	$C_9H_{20}$	n-Nonane	150.8	128.0	50 vol. %	291	
1268	$C_9H_{20}$	$\overline{Z},2,3,3$ -Tetramethyl- pentane	140.27	124.1	40 vol. %	291	
1269	$C_9H_{20}$	2,2,4,4-Tetramethyl- pentane	122.28	114.3	26 vol. %	291	
1270	$C_9H_{20}$	2,3,3,4-Tetramethyl- pentane	141.55	124.6	41 vol. %	291	
1271	$C_9H_{20}$	2,2,3-Trimethylhexane	133.60	120.8	34 vol. %	291	
1272	$C_9H_{20}$	2,2,4-Trimethylhexane	126.54	116.8	26 vol. %	291	
1273	$C_9H_{20}$	2,3,3-Trimethylhexane	137.68	122.8	41 vol. %	291	
1274	$C_9H_{20}$	2,3,5-Trimethylhexane	131.34	119.5	32 vol. %	291	
1275	$C_9H_{20}$	2,4,4-Trimethylhexane	130.65	119.1	34 vol. %	291	
1276	$C_9H_{20}$	3,3,4-Trimethylhexane	140.46	124.0	40 vol. %	291	

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
A =	$C_4H_{10}O_2$	2-Ethoxyethanol (continued)	134.0			
1277	$C_{10}H_{20}$	<u>tert</u> -Butylcyclohexane	171.5	133.3	73 vol. %	291
A =	$C_4H_{10}O_3$	Diethylene Glycol	245.5			
1278	$C_5H_{12}O_3$	2-(2-Methoxyethoxy) ethanol	193.6	Nonazeotrope	334	
1279	$C_6H_6$	Benzene	80.1	Nonazeotrope	334	
1280	$C_6H_{12}O_3$	2-(2-Vinyloxyethoxy) ethanol	...	Min. b.p.	94	
1281	$C_6H_{11}O_3$	2-(2-Ethoxyethoxy) ethanol	202.8	Nonazeotrope	334	
1282	$C_6H_{14}O_4$	Triethylene glycol, 3 mm.	...	Nonazeotrope	v-1	60
1283	$C_8H_7N$	Indole	253	Azeo. distillation	120	
1284	$C_8H_{10}$	Ethylbenzene	136.15	Azeo. distillation	120	
1285	$C_8H_{10}$	p-Xylene	138.2	Azeo. distillation	120	
1286	$C_8H_{18}O_3$	2-(2-Butoxyethoxy) ethanol, 10 mm.	109	Nonazeotrope	334	
1287	$C_8H_{18}O_4$	2-[2-(2-Ethoxyethoxy) ethoxy]ethanol, 2 mm.	98	87	43	335
		" 3 mm.	...	135	83.4	60
1288	$C_{10}H_8$	Naphthalene	218.1	Azeo. distillation	120	
1289	$C_{11}H_{14}OS$	2-(Benzylmercapto) ethyl vinyl ether				
1290	$C_{12}H_9N$	Carbazole, >10 mm.	294	Min. b.p.	329	
1291	$C_{12}H_{10}$	Biphenyl	355.9	Nonazeotrope	100	
1292	$C_{12}H_{10}O$	Phenyl ether, 4 mm.	100	Azeo. distillation	120	
1293	$C_{12}H_{24}OS$	2-(2-Ethylhexylthio) ethyl vinyl ether	...	...	335	
1294	$C_{12}H_{26}O$	Hexyl ether, 50 mm.	137	129.9	15.5	335
1295	$C_{13}H_{10}$	Fluorene, 10-760 mm.	294	Min. b.p.	100	
1296	$C_{14}H_{10}$	Phenanthrene, 20 mm.	...	146	93	100
		" 100 mm.	...	180	96.2	100
		" 200 mm.	...	203	98.5	100
		" 300 mm.	...	217	99.5	100
		" 400 mm.	...	226	99.9	100
1297	$C_{14}H_{14}O$	Benzyl ether, 5 mm.	...	...	40	335
1298	$C_{16}H_{34}O$	Bis(2-ethylhexyl)ether, 10 mm.	135	114	...	335
A =	$C_4H_{10}S$	2-Butanethiol	85.15			
1299	$C_4H_{10}S$	Isopropyl methyl sulfide	84.76	Nonazeotrope	70	
A =	$C_4H_{10}S$	Ethyl Sulfide	92.07			
1300	$C_6H_6$	Benzene	80.10	Nonazeotrope	70	
1301	$C_6H_{12}$	Cyclohexane	80.85	Nonazeotrope	70	
1302	$C_7H_{14}$	<u>trans</u> -1,3-Dimethyl- cyclopentane	90.80	88.89	41.0	70
1303	$C_7H_{14}$	1,1-Dimethylcyclo- pentane	87.90	86.98	26.1	70
1304	$C_7H_{14}$	Methylcyclohexane	101.05	92.10	94.5	70
1305	$C_7H_{16}$	3-Methylhexane	91.60	89.19	48.3	70
1306	$C_7H_{16}$	2,3-Dimethylpentane	89.90	87.93	38.6	70
1307	$C_7H_{16}$	2,4-Dimethylpentane	80.55	80.53	2.26	70
1308	$C_8H_{18}$	2,2,4-Trimethylpentane	99.30	91.44	77.0	70
A =	$C_4H_{10}S$	Isopropyl Methyl Sulfide	84.76			
1309	$C_6H_{12}$	Cyclohexane	80.85	79.76	30	70
1310	$C_6H_{12}$	Methylcyclopentane	71.85	Nonazeotrope	70	
1311	$C_7H_{14}$	<u>trans</u> -1,3-Dimethyl- cyclopentane	90.80	84.38	80.4	70
1312	$C_7H_{14}$	1,1-Dimethylcyclo- pentane	87.90	83.62	64.9	70
1313	$C_7H_{16}$	3-Methylhexane	91.60	84.38	82.4	70

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
A =	$C_4H_{10}S$	Isopropyl Methyl Sulfide (continued)	84.76			
1314	$C_7H_{16}$	2,3-Dimethylpentane	89.90	83.83	72.8	70
1315	$C_7H_{16}$	2,4-Dimethylpentane	80.55	79.39	29.7	70
1316	$C_7H_{16}$	2,2-Dimethylpentane	79.20	78.40	23.3	70
A =	$C_4H_{10}S$	Methyl Propyl Sulfide	95.47			
1317	$C_7H_{14}$	Ethylcyclopentane	103.45	95.41	90.7	70
1318	$C_7H_{14}$	Methylcyclohexane	101.05	95.06	78.0	70
1319	$C_7H_{14}$	<i>trans</i> -1,3-Dimethyl-cyclopentane	90.80	90.11	24.3	70
1320	$C_7H_{14}$	1,1-Dimethylcyclopentane	87.90	87.66	9.7	70
1321	$C_7H_{16}$	3-Methylhexane	91.60	90.53	32.95	70
1322	$C_7H_{16}$	2,3-Dimethylpentane	89.90	89.10	22.75	70
1323	$C_8H_{18}$	2,2-Dimethylhexane	106.85	95.42	94.4	70
1324	$C_8H_{18}$	2,2,4-Trimethylpentane	99.30	94.00	62.2	70
A =	$C_4H_{10}S_2$	Ethyl Disulfide	154.11			
1325	$C_9H_{20}$	Nonane	150.65	148.62	41.2	70
1326	$C_{10}H_{22}$	3-Ethyl-3-methyl-heptane	163.00	153.02	80.2	70
A =	$C_4H_{11}N$	Diethylamine	55.5			
1327	$C_6H_{14}O$	Isopropyl ether	68.3	Nonazeotrope		334
1328	$C_6H_{15}NO$	2-(Diethylamino)ethanol	162.1	Nonazeotrope		334
A =	$C_4H_{11}NO_2$	2,2'-Iminodiethanol	126/2 mm.			
1329	$C_6H_{15}NO_3$	2,2',2"-Nitrilotriethanol, 2 mm.	195	Nonazeotrope		334
A =	$C_5Cl_2F_6$	1,2-Dichlorohexa-fluorocyclopentene	90.6			
1330	$C_8F_{16}O$	Perfluorocyclic oxide	102.6	90.4	80	v-1 354
A =	$C_5F_{10}$	Perfluorocyclopentane	...			
1331	$C_5F_{12}$	Perfluoropentane, 9.6°-25° C.	...	Nonazeotrope		v-1 237
1332	$C_6F_{14}$	Perfluorohexane, 15°-25° C.	...	Nonazeotrope		v-1 237
A =	$C_5H_4F_8O$	2,2,3,3,4,4,5,5-Octafluoro-1-pentanol	...			
1333	$C_5H_{12}O$	Active amyl alcohol	128.5	Nonazeotrope		330
1334	$C_5H_{12}O$	Isoamyl alcohol	132.0	Nonazeotrope		330
A =	$C_5H_4O_2$	2-Furaldehyde	161.45			
1335	$C_5H_6O_2$	Furfuryl alcohol, 25 mm.	...	Nonazeotrope		v-1 348
1336	$C_6H_6$	Benzene	80.1	Nonazeotrope		v-1 52, 331
1337	$C_6H_{12}$	Cyclohexane	80.75	Nonazeotrope		v-1 52, 331
1338	$C_7H_{14}$	Methylcyclohexane	101.05	100.8	4.1	v-1 114
1339	$C_7H_{16}$	Heptane	98.40	98.3	5.3	v-1 114
A =	$C_5H_5N$	Pyridine	115.5			
1340	$C_5H_{11}N$	Piperidine	106	105.8	3.4	147
1341	$C_5H_{12}O$	3-Pentanol	115.6	117.4	45	334
1342	$C_7H_8$	Toluene	110.8	110.1	22.2	v-1 141, 371
1343	$C_7H_{16}$	Heptane	98.40	95.60	25.3	355, 373
		"	98.40	95	13.3	v-1 141
1344	$C_8H_{10}$	Ethylbenzene	136.15	Nonazeotrope		363
1345	$C_8H_{10}$	<i>o</i> -Xylene	143.6	Nonazeotrope		372

TABLE I BINARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
<b>A =</b>	<b>C<sub>5</sub>H<sub>5</sub>N</b>	<b>Pyridine (continued)</b>	<b>115.5</b>			
1346	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	109.5	56.1	355
1347	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	115.1	89.9	355
1348	C <sub>10</sub> H <sub>8</sub> N <sub>2</sub>	2,2'-Dipyridyl	274	Nonazeotrope	147	
1349	C <sub>10</sub> H <sub>22</sub>	Decane	173.3	Nonazeotrope	355	
<b>A =</b>	<b>C<sub>5</sub>H<sub>6</sub>S</b>	<b>2-Methylthiophene</b>	<b>111.92</b>			
1350	C <sub>7</sub> H <sub>16</sub>	Heptane	98.40	97.77	2.2	70
1351	C <sub>8</sub> H <sub>18</sub>	2-Methylheptane	117.70	109.97	67.8	70
1352	C <sub>8</sub> H <sub>18</sub>	2,5-Dimethylhexane	109.15	106.12	39.6	70
1353	C <sub>8</sub> H <sub>18</sub>	2,2-Dimethylhexane	106.85	104.62	33.2	70
<b>A =</b>	<b>C<sub>5</sub>H<sub>6</sub>S</b>	<b>3-Methylthiophene</b>	<b>114.96</b>			
1354	C <sub>7</sub> H <sub>14</sub>	Ethylcyclopentane	103.45	102.82	3.9	70
1355	C <sub>7</sub> H <sub>16</sub>	Heptane	98.40	Nonazeotrope	70	
1356	C <sub>8</sub> H <sub>16</sub>	<i>trans</i> -1,3-Dimethyl-cyclohexane	120.3	113.17	66	70
1357	C <sub>8</sub> H <sub>16</sub>	1,1,2-Trimethylcyclopentane	113.75	110.47	43.2	70
1358	C <sub>8</sub> H <sub>18</sub>	Octane	125.70	114.15	82	70
1359	C <sub>8</sub> H <sub>18</sub>	2-Methylheptane	117.70	111.86	58.8	70
1360	C <sub>8</sub> H <sub>18</sub>	2,5-Dimethylhexane	109.15	107.12	31.7	70
<b>A =</b>	<b>C<sub>5</sub>H<sub>8</sub></b>	<b>Isoprene</b>	<b>34.3</b>			
1361	C <sub>5</sub> H <sub>10</sub>	3-Methyl-1-butene	21.2	Nonazeotrope	248	
1362	C <sub>5</sub> H <sub>10</sub>	2-Methyl-1-butene	32	Nonazeotrope	248	
1363	C <sub>5</sub> H <sub>10</sub>	2-Methyl-2-butene	37.7	Nonazeotrope	248	
1364	C <sub>5</sub> H <sub>12</sub>	2-Methylbutane	27.6	Nonazeotrope	248	
1365	C <sub>5</sub> H <sub>12</sub>	Pentane, 758 mm.	36	33.6	72.5	v-l 248
<b>A =</b>	<b>C<sub>5</sub>H<sub>8</sub>Cl<sub>4</sub></b>	<b>Tetrachloropentane</b>	...			
1366	C <sub>7</sub> H <sub>12</sub> Cl <sub>4</sub>	Tetrachloroheptane, 12-150 mm.	...	Nonazeotrope	v-l	250
<b>A =</b>	<b>C<sub>5</sub>H<sub>8</sub>O</b>	<b>Cyclopentanone</b>	<b>129.5</b>			
1367	C <sub>5</sub> H <sub>12</sub> O	Active amyl alcohol	128.5	Nonazeotrope	330	
1368	C <sub>5</sub> H <sub>12</sub> O	Isoamyl alcohol	131.85	127.8	60	v-l 87, 88
		"	131.85	129.4	...	314
		"	131.85	Nonazeotrope	2	
1369	C <sub>5</sub> H <sub>12</sub> O	2-Methyl-1-butanol	128.9	127	...	87, 88
		"	128.9	124.6	...	314
<b>A =</b>	<b>C<sub>5</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>Ethyl Acrylate</b>	<b>99.3</b>			
1370	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	Nonazeotrope	334	
<b>A =</b>	<b>C<sub>5</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>Methyl Methacrylate</b>	<b>61.8/200 mm.</b>			
1371	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	Butyl methacrylate, 200 mm.	117.7	Nonazeotrope	147	
1372	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	2-Ethoxyethyl methacrylate, 200 mm.	134.3	Nonazeotrope	147	
<b>A =</b>	<b>C<sub>5</sub>H<sub>8</sub>O<sub>2</sub></b>	<b>2,4-Pentanedione</b>	<b>140.2</b>			
1373	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Isopropenyl acetate	96.5	Nonazeotrope	147	
<b>A =</b>	<b>C<sub>5</sub>H<sub>10</sub></b>	<b>Cyclopentane</b>	<b>49.4</b>			
1374	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotrope	v-l 230	
1375	C <sub>6</sub> H <sub>14</sub>	2,2-Dimethylbutane	49.7	49.1	82.3	214
<b>A =</b>	<b>C<sub>5</sub>H<sub>10</sub></b>	<b>3-Methyl-1-butene</b>	<b>22.5</b>			
1376	C <sub>5</sub> H <sub>12</sub>	2-Methylbutane	27.6	Nonazeotrope	248	
<b>A =</b>	<b>C<sub>5</sub>H<sub>10</sub></b>	<b>2-Methyl-2-butene</b>	<b>37.7</b>			
1377	C <sub>5</sub> H <sub>12</sub>	Pentane	36.15	Nonazeotrope	248	

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	C <sub>5</sub> H <sub>10</sub> O	3-Methyl-2-butanone	95.4				
1378	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	...	14.8	256	
1379	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	...	48	256	
A =	C <sub>5</sub> H <sub>10</sub> O	2-Pentanone	102.35				
1380	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	...	5.0	256	
A =	C <sub>5</sub> H <sub>10</sub> O	3-Pentanone	102				
1381	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	101.15	...	40	256	
1382	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	...	35	256	
1383	C <sub>8</sub> H <sub>16</sub>	1,3-Dimethylcyclohexane	120.7	...	83	256	
1384	C <sub>8</sub> H <sub>18</sub>	2,5-Dimethylhexane	109.4	...	60	256	
A =	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl Acetate	88.7				
1385	C <sub>6</sub> H <sub>8</sub> O	2,5-Dimethylfuran	93.3	Nonazeotrope		334	
A =	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Valeric Acid	186.35				
1386	C <sub>7</sub> H <sub>15</sub> NO	N,N-Dimethylvaleramide, 100 mm.	141	145.8	30.8	295	
A =	C <sub>5</sub> H <sub>12</sub>	Pentane	36.15				
1387	C <sub>6</sub> H <sub>6</sub>	Benzene	80.2	Nonazeotrope	v-1	52, 229	
1388	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Nonazeotrope	v-1	231	
1389	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane	72.0	Nonazeotrope	v-1	52, 231	
1390	C <sub>7</sub> F <sub>16</sub>	Perfluoroheptane, crit. region	82.5	Azeotrope	v-1	155	
1391	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	101.15	Nonazeotrope	v-1	52, 231	
A =	C <sub>5</sub> H <sub>12</sub> O	Amyl Alcohol	137.8				
1392	C <sub>6</sub> H <sub>6</sub>	Benzene	80.2	Nonazeotrope	v-1	344	
1393	C <sub>6</sub> H <sub>10</sub> O	Methylcyclopentanone	138	Min. b.p.	87, 88,	314	
1394	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub>	2,5-Dimethylpiperazine	164	Nonazeotrope	334		
1395	C <sub>8</sub> H <sub>18</sub>	C <sub>8</sub> paraffins	120-130	Min. b.p.	314		
1396	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	121.8	...	314	
1397	C <sub>11</sub> H <sub>24</sub> O <sub>2</sub>	Diamyloxymethane	...	Nonazeotrope	334		
A =	C <sub>5</sub> H <sub>12</sub> O	Active Amyl Alcohol	128.5				
1398	C <sub>5</sub> H <sub>12</sub> O	Isoamyl alcohol	131	Nonazeotrope	v-1	246	
1399	C <sub>6</sub> H <sub>5</sub> Cl	Chlorobenzene	132	124.4	43	330	
1400	C <sub>6</sub> H <sub>5</sub> FO	o-Fluorophenol	...	Nonazeotrope	330		
1401	C <sub>6</sub> H <sub>7</sub> N	2-Picoline	129	132.8	49	330	
1402	C <sub>6</sub> H <sub>10</sub> O	Mesityl oxide	129.5	Nonazeotrope	330		
1403	C <sub>7</sub> H <sub>7</sub> F	o-Fluorotoluene	114	112.0	16	330	
1404	C <sub>7</sub> H <sub>8</sub>	Toluene	111	109.9	12	330	
1405	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine	144	Nonazeotrope	330		
1406	C <sub>7</sub> H <sub>14</sub> O	2,4-Dimethyl-3-pentanone	125	124.1	21	330	
1407	C <sub>7</sub> H <sub>15</sub> N	1,2-Dimethylpiperidine	128	130.3	...	330	
1408	C <sub>7</sub> H <sub>15</sub> N	2,6-Dimethylpiperidine	128	130.7	54	330	
1409	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136	125.0	53	330	
1410	C <sub>8</sub> H <sub>18</sub>	n-Octane	126.0	117.0	34	330	
1411	C <sub>9</sub> H <sub>20</sub>	2,2,5-Trimethylhexane	124	115.5	29	330	
A =	C <sub>5</sub> H <sub>12</sub> O	Isoamyl Alcohol	131				
1412	C <sub>5</sub> H <sub>12</sub> S	3-Methyl-1-butanethiol	116	115.6	22.89	181	
1413	C <sub>6</sub> H <sub>6</sub> Cl	Chlorobenzene	132	123.9	38	330	
1414	C <sub>6</sub> H <sub>5</sub> FO	o-Fluorophenol	...	Nonazeotrope	330		
1415	C <sub>6</sub> H <sub>7</sub> N	2-Picoline	129	132.8	61	330	
1416	C <sub>6</sub> H <sub>10</sub> O	Mesityl oxide	129.5	Nonazeotrope	330		
1417	C <sub>7</sub> H <sub>n</sub>	C <sub>7</sub> hydrocarbons	95-120	Min. b.p.	314		
1418	C <sub>7</sub> H <sub>7</sub> F	o-Fluorotoluene	114	112.1	14	330	
1419	C <sub>7</sub> H <sub>8</sub>	Toluene	111	109.7	10	330, 371	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>C<sub>5</sub>H<sub>12</sub>O</b>	<b>Isoamyl Alcohol (continued)</b>	<b>131</b>				
1420	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine, 70 mm.	...	Max. b.p.		330	
	"	"	144	Nonazeotrope		330	
1421	C <sub>7</sub> H <sub>14</sub> O	2,4-Dimethyl-3-pentanone	125	124.5	8	330	
1422	C <sub>7</sub> H <sub>15</sub> N	1,2-Dimethyl-piperidine	128	132.5	81	330	
1423	C <sub>7</sub> H <sub>15</sub> N	2,6-Dimethyl-piperidine	128	132.6	76	330	
1424	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136	125.7	49	330	
1425	C <sub>8</sub> H <sub>18</sub>	n-Octane	126	117.0	30	330	
1426	C <sub>9</sub> H <sub>20</sub>	2,2,5-Trimethylhexane	124	116.0	26	330	
<b>A =</b>	<b>C<sub>5</sub>H<sub>12</sub>O</b>	<b>2-Methyl-1-Butanol</b>	<b>128.9</b>				
1427	C <sub>7</sub> H <sub>n</sub>	C <sub>7</sub> hydrocarbons	95-120	Min. b.p.		314	
1428	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	Min. b.p.		314	
<b>A =</b>	<b>C<sub>5</sub>H<sub>12</sub>O</b>	<b>2-Methyl-2-butanol</b>	<b>101.7</b>				
1429	C <sub>6</sub> H <sub>6</sub>	Benzene	80.2	80.0	15	52	
	" 715 mm.	"	...	...	4.95 v-1	272	
1430	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	100.5	56	52	
	" 715 mm.	"	...	...	32.5 v-1	272	
<b>A =</b>	<b>C<sub>5</sub>H<sub>12</sub>O<sub>3</sub></b>	<b>2-(2-Methoxyethoxy) ethanol</b>	<b>192.95</b>				
1431	C <sub>8</sub> H <sub>6</sub> Cl <sub>2</sub>	ar-Dichlorostyrene, 15 mm.	...	86-90	...	49	
	" 29 mm.	"	...	100-101	...	49	
1432	C <sub>9</sub> H <sub>12</sub>	p-Ethyltoluene	161.99	161.4	9 vol. %	291	
1433	C <sub>9</sub> H <sub>12</sub>	m-Ethyltoluene	161.31	160.9	13 vol. %	291	
1434	C <sub>9</sub> H <sub>12</sub>	o-Ethyltoluene	165.15	164.3	16 vol. %	291	
1435	C <sub>9</sub> H <sub>12</sub>	1,2,3-Trimethylbenzene	176.08	173.4	26 vol. %	291	
1436	C <sub>9</sub> H <sub>12</sub>	1,2,4-Trimethylbenzene	169.35	167.9	21 vol. %	291	
1437	C <sub>9</sub> H <sub>12</sub>	Mesitylene	164.72	163.8	12 vol. %	291	
1438	C <sub>10</sub> H <sub>14</sub>	Butylbenzene	183.27	177.9	32 vol. %	291	
1439	C <sub>10</sub> H <sub>14</sub>	sec-Butylbenzene	173.30	170.7	16 vol. %	291	
1440	C <sub>10</sub> H <sub>14</sub>	tert-Butylbenzene	169.11	167.6	13 vol. %	291	
1441	C <sub>10</sub> H <sub>14</sub>	Isobutylbenzene	172.76	170.3	24 vol. %	291	
1442	C <sub>10</sub> H <sub>14</sub>	m-Diethylbenzene	181.13	176.3	29 vol. %	291	
1443	C <sub>10</sub> H <sub>14</sub>	p-Diethylbenzene	183.78	177.9	31 vol. %	291	
1444	C <sub>10</sub> H <sub>14</sub>	5-Ethyl-m-xylene	183.75	177.9	30 vol. %	291	
1445	C <sub>10</sub> H <sub>14</sub>	p-Cymene	177.10	173.3	22 vol. %	291	
1446	C <sub>10</sub> H <sub>14</sub>	1,2,3,5-Tetramethylbenzene	197.93	185.9	48 vol. %	291	
1447	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.1	Nonazeotrope		98	
1448	C <sub>11</sub> H <sub>16</sub>	tert-Amylbenzene	198.1	182.8	40 vol. %	291	
1449	C <sub>11</sub> H <sub>22</sub>	tert-Amylcyclohexane	198.1	180.6	40 vol. %	291	
1450	C <sub>11</sub> H <sub>24</sub>	n-Undecane	195.88	178.7	40 vol. %	291	
1451	C <sub>12</sub> H <sub>26</sub>	n-Dodecane, 217 mm.	169.79	144.2	52 vol. %	291	
1452	C <sub>12</sub> H <sub>26</sub>	2,2,4,6-Pentamethylheptane	185.6	173.6	30 vol. %	291	
1453	C <sub>12</sub> H <sub>26</sub>	2,2,4,6,6-Pentamethylheptane	177.9	168.9	23 vol. %	291	
1454	C <sub>13</sub> H <sub>26</sub>	1-Tridecene	232.78	191.6	70 vol. %	291	
<b>A =</b>	<b>C<sub>6</sub>F<sub>12</sub>O</b>	<b>Perfluorocyclic Ether</b>	...				
1455	C <sub>6</sub> F <sub>14</sub>	Perfluorohexane, 25°	...	Nonazeotrope	v-1	237	
<b>A =</b>	<b>C<sub>6</sub>F<sub>14</sub></b>	<b>Perfluorohexane</b>	...				
1456	C <sub>6</sub> H <sub>14</sub>	Hexane, 325 mm.	...	25	83.4	v-1	79
	" 479 mm.	"	...	35	83.7	v-1	79
	" 689 mm.	"	...	45	80.0	v-1	79

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$C_6F_{14}$	Perfluorohexane (continued)	...				
1457	$C_{12}F_{27}N$	Tris(perfluorobutyl) amine, 25°	...	Nonazeotrope	v-1	237	
A =	$C_6H_3Cl_3$ $C_9H_6N_2O_2$	1,2,4-Trichlorobenzene 2,4-Tolylene diisocyanate, 40 mm.	...	Nonazeotrope	v-1	119	
A =	$C_6H_4Cl_2$ $C_9H_6O_2N_2$	$\alpha$ -Dichlorobenzene 2,4-Tolylene diisocyanate, 15 mm.	67.0/15				
1459		Di-p-isocyanatodi- phenylmethane, 5 mm.	128.7	Nonazeotrope		147	
1460	$C_{15}H_{10}O_2N_2$		192.0	Nonazeotrope		147	
A =	$C_6H_5Br$ $C_6H_{12}O$	Bromobenzene Cyclohexanol,	156.1				
1461		250 mm. " 500 mm. " 730 mm.	127.0 144.4 158.6	113.6 136.8 150.6	85.5 81.5 74.8	v-1	318
A =	$C_6H_5Cl$ $C_6H_{14}$ $C_9H_6N_2O_2$	Chlorobenzene n-Hexane 2,4-Tolylene diiso- cyanate, 40 mm.	131.8 68.95 ...	Nonazeotrope Nonazeotrope			52
1462				v-1	119		
1463							
A =	$C_6H_5F$ $C_6H_6$	Fluorobenzene Benzene	84.9 80.1	Ideal system	v-1	12	
A =	$C_6H_5NO_2$ $C_6H_{12}$	Nitrobenzene Cyclohexane	210.85 80.75	Nonazeotrope			52
A =	$C_6H_6$ $C_6H_{12}$	Benzene Cyclohexane	80.1 80.75	77.6	51.2	v-1	44, 191, 343
1466		" 128 mm. " 155 mm. " 287 mm. " 307 mm. " 495 mm. " 602 mm. " 760 mm. " 14.7 p.s.i.a. " 66.7 p.s.i.a. " 118.0 p.s.i.a. " 186.8 p.s.i.a. " 66.7 p.s.i.a. " 116.5 p.s.i.a. " 165.9 p.s.i.a. " 217.0 p.s.i.a. " 268.7 p.s.i.a.	80.75 ...	77.4 33.1 48.3 50.4 63.7 69.8 77.56 77.4 137.1 165.8 193.0 ...	52.5 47.6 48.0 49.3 49.4 50.8 51.3 51.9 50.2 61.5 67.0 71.5 59.7 64.9 67.6 71 74	v-1	316 316 316 316 316 316 316 321 321 321 321 321 321 276 276 276 276 276 276
1467	$C_6H_{12}$	Methylcyclopentane	71.85	71.7	16	v-1	230
1468	$C_6H_{12}O$	4-Methyl-2-pentanone, 450-760 mm.	...	Nonazeotrope	v-1	66	
1469	$C_6H_{14}$	Hexane " 4-18 atm.	68.95 ...	Nonazeotrope Nonazeotrope	v-1	229	
1470	$C_7F_{14}$	Perfluoromethylcyclo- hexane	73-78	59	...		51
1471	$C_7F_{16}$	Perfluoroheptane	83	61	...		51
1472	$C_7H_{14}$	Methylcyclohexane	101.05	Nonazeotrope	v-1	230	
1473	$C_7H_{16}$	2,3-Dimethylpentane	89.79	79.4	78.8	v-1	190
1474	$C_7H_{16}$	2,4-Dimethylpentane	81	>75	48.4		51
1475	$C_7H_{16}$	Heptane, 180-450 mm. "	...	Nonazeotrope	v-1	240	
			98.4	Nonazeotrope	v-1	229	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>C<sub>6</sub>H<sub>6</sub></b>	<b>Benzene (continued)</b>	<b>80.1</b>				
1476	C <sub>8</sub> F <sub>18</sub> O	Perfluorobutyl ether	100	68	...		51
1477	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	Nonazeotrope			52
1478	C <sub>8</sub> H <sub>18</sub>	2,2,4-Trimethylpentane, 35°-75° C.	...	Nonazeotrope	v-1	345	
1479	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	2-(2-Butoxyethoxy)ethanol	230.6	Nonazeotrope			334
<b>A =</b>	<b>C<sub>6</sub>H<sub>6</sub>O</b>	<b>Phenol</b>	<b>181.42</b>				
1480	C <sub>6</sub> H <sub>10</sub> O	Cyclohexanone, 50 mm.	73	...	71.5		76
		" 50 mm.	155.6	Azeotropic			57
		" 90 mm.	...	Max. b.p.	75.8		334
1481	C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	Ethylene diacetate	189.86	195.53	39.2		253
1482	C <sub>6</sub> H <sub>12</sub> O	Cyclohexanol, 60 mm.	...	111	70		76
		" 70 mm.	...	111	73		57
		" 90 mm.	...	120	70	v-1	57
		" 200 mm.	...	140	71		76
		"	160.65	180	87		76
1483	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	Phenyl acetate	195.14	195.89	8.9		253
1484	C <sub>8</sub> H <sub>18</sub> O	2-Ethyl-1-hexanol, 25 mm.	...	95.6	95	34,	335
1485	C <sub>9</sub> H <sub>10</sub>	α-Methylstyrene	...	162	7		303
1486	C <sub>9</sub> H <sub>12</sub>	Cumene	152.8	149	2		76
1487	C <sub>9</sub> H <sub>12</sub>	Propylbenzene	158.9	158.5	14		324
1488	C <sub>9</sub> H <sub>14</sub> SiO	(Trimethylsiloxy) benzene	181.9	175.5	...		193
<b>A =</b>	<b>C<sub>6</sub>H<sub>6</sub>O<sub>2</sub></b>	<b>Pyrocatechol</b>	<b>245.9</b>				
1489	C <sub>12</sub> H <sub>18</sub>	1,3,5-Triethylbenzene	215.5	214.7	8.9		324
<b>A =</b>	<b>C<sub>6</sub>H<sub>7</sub>N</b>	<b>Aniline</b>	<b>184.35</b>				
1490	C <sub>6</sub> H <sub>12</sub> O	Cyclohexanol	...	Nonazeotrope	v-1	242	
1491	C <sub>6</sub> H <sub>13</sub> N	Cyclohexylamine	134	Nonazeotrope		147,	242
1492	C <sub>6</sub> H <sub>14</sub>	Hexane, 556-731 mm.	...	Nonazeotrope	v-1	356	
1493	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	...	...	v-1	138
1494	C <sub>7</sub> H <sub>9</sub> N	N-Methylaniline, 95°-145°	...	Nonazeotrope	v-1	59	
1495	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	...	...	v-1	138
1496	C <sub>8</sub> H <sub>11</sub> N	N,N-Dimethylaniline, 36.7 mm.	...	95	74.5	v-1	59
		" 101.4 mm.	...	120	76.1	v-1	59
		" 243.1 mm.	...	145	77.5	v-1	59
1497	C <sub>8</sub> H <sub>18</sub>	Iso-octane, 86-741 mm.	...	Nonazeotrope	v-1	356	
1498	C <sub>10</sub> H <sub>14</sub>	p-Cymene, 50 mm.	...	...	21.3	v-1	92
		" 100 mm.	...	106.3	23	v-1	92
		" 300 mm.	...	...	...	v-1	92
		" 500 mm.	...	...	...	v-1	92
		" 760 mm.	...	172.80	31.3	v-1	92
<b>A =</b>	<b>C<sub>6</sub>H<sub>7</sub>N</b>	<b>2-Picoline</b>	<b>128.8</b>				
1499	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	Paraldehyde	124.5	Nonazeotrope			334
1500	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	121.12	42		369
1501	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	129.2	84.1		369
<b>A =</b>	<b>C<sub>6</sub>H<sub>7</sub>N</b>	<b>3-Picoline</b>	<b>144</b>				
1502	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine	144.06	143.5	27.3	v-1	27
<b>A =</b>	<b>C<sub>6</sub>H<sub>8</sub>ClN</b>	<b>Aniline Hydrochloride</b>	...				
1503	C <sub>12</sub> H <sub>11</sub> N	Diphenylamine, 100 mm.	...	...	45.8		153
		" 250 mm.	...	...	48		153
		" 350 mm.	265	215	50		153
		" 740 mm.	...	233	65		153
		" 2500 mm.	...	270	...		153

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	$C_6H_8N_2$	2-Amino-3-methyl-pyridine	221				
1504	$C_{11}H_{10}$	1-Methylnaphthalene,					
		20 mm.	...	115	68.2	98, 99	
		" 50 mm.	...	136	75.2	98, 99	
		" 150 mm.	...	166	89.7	98, 99	
		" 290 mm.	...	187	96.4	98, 99	
		" 400 mm.	...	198	98.7	98, 99	
		" 760 mm.	244.8	Nonazeotrope		98, 99	
1505	$C_{11}H_{10}$	2-Methylnaphthalene,					
		16 mm.	...	109	57.5	98, 99	
		" 50 mm.	...	137	69.5	98, 99	
		" 150 mm.	...	165	76.8	98, 99	
		" 400 mm.	...	196	92	98, 99	
		" 550 mm.	...	209	96	98, 99	
		" 760 mm.	241.1	Nonazeotrope		98, 99	
A =	$C_6H_{10}O$	Cyclohexanone	155.6				
1506	$C_6H_{12}O$	Cyclohexanol, 100 mm.	...	Nonazeotrope	v-1	57	
A =	$C_6H_{10}O$	Mesityl Oxide	128.3				
1507	$C_6H_{12}O$	4-Methyl-2-pantanone	116.2	Nonazeotrope		334	
1508	$C_6H_{12}O_2$	4-Hydroxy-4-methyl-2-pantanone	169.2	Nonazeotrope		334	
1509	$C_7H_{12}O$	3-Hepten-2-one	162.9	Nonazeotrope		334	
1510	$C_8H_{16}O_2$	4-Methyl-2-pentyl acetate	146.1	Nonazeotrope		334	
1511	$C_9H_{18}O$	2,6-Dimethyl-4-heptanone	169.4	Nonazeotrope		334	
A =	$C_6H_{12}$	Cyclohexane	80.85				
1512	$C_6H_{12}O$	Cyclohexanol	161.1	Nonazeotrope		334	
1513	$C_6H_{12}O$	4-Methyl-2-pantanone, 450-760 mm.	...	Nonazeotrope	v-1	66	
1514	$C_6H_{13}N$	Cyclohexylamine	...	Nonazeotrope	v-1	242	
1515	$C_6H_{14}$	Hexane	68.95	Nonazeotrope	v-1	231	
1516	$C_7H_8$	Toluene	110.7	Nonazeotrope	v-1	230	
1517	$C_7H_{16}$	2,4-Dimethylpentane	80.5	80.2	48.6	214	
1518	$C_7H_{16}$	Heptane	98.4	...	...	v-1	52, 231
1519	$C_7H_{16}$	2,2,3-Trimethylbutane	80.8	80.0	46.6	214	
A =	$C_6H_{12}$	Methylcyclopentane	71.72				
1520	$C_6H_{14}$	Hexane, 200-760 mm.	68.95	Nonazeotrope	v-1	85, 231	
1521	$C_7H_8$	Toluene	110.7	Nonazeotrope	v-1	230	
A =	$C_6H_{12}O$	Cyclohexanol	161				
1522	$C_7H_{12}O_2$	Cyclohexyl formate, 50 mm.	...	79.4	50	147	
1523	$C_8H_{14}O$	Cyclohexyl vinyl ether, 45 mm.	...	71-80	21	341	
A =	$C_6H_{12}O$	4-Methyl-2-pantanone	116.2				
1524	$C_8H_{16}O_2$	4-Methyl-2-pentyl acetate	146.1	Nonazeotrope		334	
1525	$C_9H_{18}O$	2,6-Dimethyl-4-heptanone	169.4	Nonazeotrope		334	
A =	$C_6H_{12}O_2$	Butyl Acetate	126.1				
1526	$C_6H_{12}O_2$	sec-Butyl acetate	112.2	Nonazeotrope		334	
1527	$C_6H_{14}O_2$	2-Butoxyethanol	171.1	Nonazeotrope		334	
1528	$C_8H_{18}O$	Butyl ether	142.1	125.9	95	334	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
A = 1529	$C_6H_{12}O_2$ $C_8H_{16}O_2$	Hexanoic Acid Octanoic acid, 20-100 mm.	205.15 ...	Nonazeotrope	v-1	289
1530	$C_8H_{17}NO$	N,N-Dimethylhexan- amide, 100 mm.	...	Max. b.p.		
A = 1531	$C_6H_{12}O_2$ $C_9H_{12}$	4-Hydroxy-4-methyl 2-Pentanone <u>x</u> -Ethyltoluene, 20 mm.	166 ...	<80	25	353
1532	$C_6H_{12}SO_2$ $C_{15}H_{18}$	2,4-Dimethylsulfolane Amyl naphthalene, 20 mm.	...	151 142	75 75	225 225
A = 1533	$C_{16}H_{34}$	Hexadecane, 20 mm.	...			
1534	$C_6H_{12}O_3$ $C_7H_8$	2-Ethoxyethyl Acetate Toluene	156.2 110.6	Nonazeotrope		334
A = 1535	$C_6H_{12}O_3$ $C_8H_{10}$	Paraldehyde m-Xylene	124 139	Nonazeotrope		113
1536	$C_8H_{10}$	p-Xylene	138.4	Nonazeotrope		113
A = 1537	$C_6H_{14}$ $C_7F_{16}$	Hexane Perfluoroheptane, crit. region	68.95 ...	Azeotropic	v-1	155
1538	$C_7H_8$	Toluene	110.7	Nonazeotrope		52
1539	$C_7H_{14}$	" 150-760 mm. Methylcyclohexane	101.15	Nonazeotrope	v-1	229
A = 1540	$C_6H_{14}O$ $C_8H_{16}O$	2-Ethyl-1-butanol 2-Ethylhexaldehyde	147.0 163.6	Nonazeotrope		334
1541	$C_8H_{17}Cl$	3-(Chloromethyl) heptane, 50 mm. " 100 mm.	89 106.9	77 92	61 68	335 335
1542	$C_6H_{14}O$ $C_8H_{16}O_2$	Hexyl Alcohol 2-Ethylbutyl acetate	157.1 162.3	154.4	72.5	335
A = 1543	$C_6H_{14}O$ $C_6H_{14}O_2$	Isopropyl Ether 1,2-Diethoxyethane	68.3 121.1	Nonazeotrope		334
1544	$C_6H_{14}O$ $C_8H_{16}O_2$	4-Methyl-2-pentanol 4-Methyl-2-pentyl acetate	131.8 146.1	Nonazeotrope		334
A = 1545	$C_6H_{14}OS$ $C_8H_{16}OS$	2-Butylthioethanol 2-Butylthioethyl vinyl ether	...	Min. b.p.		329
1546	$C_6H_{14}O_2$ $C_9H_{12}$	2-Butoxyethanol Cumene	171.2 152.4	151.7	10.3	168
1547	$C_9H_{16}$	cis-Hexahydroindan	167.7	159.9	38 vol. %	291
1548	$C_{10}H_{14}$	Butylbenzene	183.4	169.6	73.4	168
1549	$C_{10}H_{14}$	sec-Butylbenzene	173.3	166.0	47.9	168
1550	$C_{10}H_{14}$	tert-Butylbenzene	169.1	164.4	39.1	168
1551	$C_{10}H_{14}$	p-Cymene	177.2	167.4	56.6	168
1552	$C_{10}H_{20}$	n-Butylcyclohexane	180.95	165.6	56 vol. %	291
1553	$C_{10}H_{20}$	sec-Butylcyclohexane	179.3	165.1	53 vol. %	291
1554	$C_{10}H_{20}$	Isobutylcyclohexane	171.3	161.5	40 vol. %	291
1555	$C_{10}H_{20}$	cis-1-Methyl-4- isopropylcyclo- hexane	172.7	162.0	45 vol. %	291
1556	$C_{10}H_{20}$	trans-1-methyl-4- isopropylcyclo- hexane	170.5	160.9	41 vol. %	291

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	2-Butoxyethanol (continued)	171.2				
1557	C <sub>10</sub> H <sub>22</sub>	3,3,5-Trimethyl- heptane	155.5	151.6	23 vol. %	291	
A =	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	Hexylene Glycol	...				
1558	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene, 400 mm.	...	Nonazeotrope	v-1	271	
1559	C <sub>8</sub> H <sub>16</sub>	Ethylcyclohexane, 400 mm.	...	Nonazeotrope	v-1	271	
A =	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	Dipropylene Glycol	...				
1560	C <sub>10</sub> H <sub>8</sub>	Naphthalene	218.1	142.9	12.4	v-1	204
1561	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.1	Nonazeotrope		98	
A =	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	2-(2-Ethoxyethoxy) ethanol	202.8				
1562	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	Bis(2-ethoxyethyl) ether	188.4	Nonazeotrope	334		
		" 10 mm.	72	Nonazeotrope	334		
1563	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.1	Nonazeotrope	98		
A =	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	Triethylene Glycol	288.7				
1564	C <sub>12</sub> H <sub>9</sub> N	Carbazole	294	Nonazeotrope	100		
		" Low press.	...	Min. b.p.	100		
1565	C <sub>12</sub> H <sub>10</sub> O	Phenyl ether, 4 mm.	102	Nonazeotrope	334		
1566	C <sub>13</sub> H <sub>10</sub>	Fluorene	294	Nonazeotrope	100		
		" High press.	...	Min. b.p.	100		
1567	C <sub>14</sub> H <sub>10</sub>	Phenanthrene, Low press.	340	Min. b.p.	100		
		Glycol decreases with decreasing pressure					
1568	C <sub>14</sub> H <sub>14</sub> O	Benzyl ether, 5 mm.	145.5	...	28	335	
A =	C <sub>6</sub> H <sub>15</sub> NO <sub>2</sub>	1,1'-Iminodi-2-propanol	133/10				
1569	C <sub>9</sub> H <sub>21</sub> NO <sub>3</sub>	1,1',1"-Nitrilotri-2- propanol, 10 mm.	1.77	Nonazeotrope	334		
A =	C <sub>7</sub> F <sub>16</sub>	Perfluoroheptane	82.5				
1570	C <sub>7</sub> H <sub>16</sub>	Heptane, crit. region	...	Azeotropic	v-1	155	
1571	C <sub>8</sub> F <sub>16</sub> O	Perfluorocyclic oxide	102.6	Nonazeotrope	v-1	354	
1572	C <sub>8</sub> H <sub>18</sub>	Octane, crit. region	...	Azeotropic	v-1	155	
1573	C <sub>9</sub> H <sub>20</sub>	Nonane, crit. region	...	Nonazeotrope	v-1	155	
A =	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	Benzoic Acid	189/100	mm.			
1574	C <sub>12</sub> H <sub>10</sub> O	Phenyl ether, 100 mm.	181	176.5	27	76	
A =	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7				
1575	C <sub>7</sub> H <sub>8</sub> O	p-Cresol	201.7	Nonazeotrope	v-1	213	
1576	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	101.1	Nonazeotrope	v-1	114, 309	
		" 60°-100° C.	...	Evaporation data	v-1	297	
1577	C <sub>7</sub> H <sub>16</sub>	Heptane	98	Evaporation data	v-1	114	
1578	C <sub>8</sub> H <sub>11</sub> N	2-Methyl-5-ethyl- pyridine	178.3	Nonazeotrope		334	
1579	C <sub>8</sub> H <sub>18</sub>	Iso-octane	...	Nonazeotrope	v-1	266	
1580	C <sub>8</sub> H <sub>18</sub>	2,2,4-Trimethylpentane	99.3	Nonazeotrope	v-1	52	
1581	C <sub>10</sub> H <sub>22</sub> O	Decyl alcohol (isomers)	217.3	Nonazeotrope		334	
1582	C <sub>12</sub> H <sub>26</sub> O	2,6,8-Trimethyl- 4-nonanol	225.5	Nonazeotrope		334	
A =	C <sub>7</sub> H <sub>8</sub> O	Benzyl Alcohol	205.2				
1583	C <sub>9</sub> H <sub>10</sub> O	Benzyl vinyl ether, 25 mm.	...	103	-	341	
A =	C <sub>7</sub> H <sub>8</sub> O	m-Cresol	202.2				
1584	C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	Ethyl benzoate	212.4	...	26.6	112	

TABLE I BINARY SYSTEMS

No.	Formula	B-Component		Azeotropic Data		
		Name	B.P., °C.	B.P., °C.	Wt.%A	Ref.
A = 1585	C <sub>7</sub> H <sub>8</sub> O C <sub>8</sub> H <sub>11</sub> N	<u>o</u> -Cresol <u>s</u> -Collidine	191 171.30	197.20	63.0	188
A = 1586	C <sub>7</sub> H <sub>8</sub> O C <sub>7</sub> H <sub>9</sub> N	<u>x</u> -Cresol Pyridine bases	202 163	204.9	78	367
1587	C <sub>7</sub> H <sub>9</sub> N	Pyridine bases	157	204.4	80	367
1588	C <sub>7</sub> H <sub>9</sub> N	Pyridine bases	142-5	202.5	90	367
A = 1589	C <sub>7</sub> H <sub>8</sub> O C <sub>10</sub> H <sub>8</sub> C <sub>11</sub> H <sub>10</sub>	<u>m,p</u> -Cresols Naphthalene 2-Methylnaphthalene	202 218.1 241.15	202 71.8 Nonazeotrope	71.8 24.5	212 98
A = 1591	C <sub>7</sub> H <sub>8</sub> O C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	<u>p</u> -Cresol Ethyl benzoate	201.7 212.4	...	24.5	112
A = 1592	C <sub>7</sub> H <sub>9</sub> N C <sub>8</sub> H <sub>11</sub> N	<u>N</u> -Methylaniline <u>N,N</u> -Dimethyl- aniline, 95°-145°	196.25 ...	Nonazeotrope	v-1	59
A = 1593	C <sub>7</sub> H <sub>9</sub> N C <sub>10</sub> H <sub>22</sub>	2,6-Lutidine Decane	143.41 174.0	Nonazeotrope	v-1	358
A = 1594	C <sub>7</sub> H <sub>9</sub> N C <sub>11</sub> H <sub>17</sub> N	<u>o</u> -Toluidine Diethyl- <u>o</u> -toluidine, 20 mm.	200.7 ...	95.8 48	173	
A = 1595	C <sub>7</sub> H <sub>14</sub> C <sub>7</sub> H <sub>16</sub>	Methylcyclohexane Heptane	100.93 98	Nonazeotrope	v-1	114, 309
1596	C <sub>8</sub> F <sub>16</sub> O	Perfluorocyclic oxide	102.5	85 40 vol. %	207	
A = 1597	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub> C <sub>9</sub> H <sub>19</sub> NO	Heptanoic Acid <u>N,N</u> -Dimethylheptan- amide	222.0 ...	Max. b.p.	295	
A = 1598	C <sub>7</sub> H <sub>16</sub> C <sub>8</sub> F <sub>18</sub> O C <sub>8</sub> H <sub>10</sub>	Heptane Perfluorobutyl ether Ethylbenzene	98 100 136.15	Min. b.p. Nonazeotrope Nonazeotrope	50 52	
1599	C <sub>8</sub> H <sub>10</sub>	" 100-760 mm.	...	Nonazeotrope	v-1	229
1600	C <sub>8</sub> H <sub>18</sub>	2,2,4-Trimethylpentane	99.3	Nonazeotrope	52	
A = 1601	C <sub>7</sub> H <sub>16</sub> O <sub>3</sub> C <sub>11</sub> H <sub>10</sub>	Dipropylene Glycol Methyl Ether 2-Methylnaphthalene	...	Nonazeotrope	98	
A = 1602	C <sub>8</sub> F <sub>16</sub> O C <sub>8</sub> H <sub>16</sub>	Perfluorocyclic Oxide Ethylcyclohexane	102.5 131.78	80 vol. %	207	
1603	C <sub>8</sub> H <sub>18</sub>	2,2,4-Trimethylpentane	99.24	60 vol. %	207	
1604	C <sub>9</sub> H <sub>20</sub>	2,3,4-Trimethylhexane	131.34	80 vol. %	207	
A = 1605	C <sub>8</sub> H <sub>5</sub> Cl <sub>3</sub> C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	<u>ar</u> -Trichlorostyrene 2-(2-Isoamyloxyethoxy) ethanol, 6.7 mm.	...	...	49	
A = 1606	C <sub>8</sub> H <sub>8</sub> C <sub>8</sub> H <sub>10</sub>	Styrene Ethylbenzene, 10-100 mm.	145 ...	Nonazeotrope	v-1	40, 110
1607	C <sub>8</sub> H <sub>10</sub>	" 30°-120° C. Xylene, 20 mm.	...	Nonazeotrope	v-1	156 334
A = 1608	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub> C <sub>11</sub> H <sub>10</sub>	Methyl Salicylate 2-Methylnaphthalene	222.3 241.15	Nonazeotrope	98	

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
<b>A =</b>	<b>C<sub>8</sub>H<sub>10</sub></b>	<b>Ethylbenzene</b>	<b>136.15</b>				
1609	C <sub>8</sub> H <sub>16</sub>	Ethylcyclohexane, 400 mm.	...	Nonazeotrope	v-1	271	
1610	C <sub>8</sub> H <sub>16</sub>	1-Octene	121.6	Nonazeotrope	v-1	342	
1611	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	Nonazeotrope		52	
1612	C <sub>9</sub> H <sub>12</sub>	Cumene	152.4	Nonazeotrope		334	
1613	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	Nonazeotrope		363	
1614	C <sub>9</sub> H <sub>20</sub>	2,2,5-Trimethylhexane	120.1	Nonazeotrope	v-1	342	
<b>A =</b>	<b>C<sub>8</sub>H<sub>10</sub></b>	<b>m-Xylene</b>	<b>139</b>				
1615	C <sub>8</sub> H <sub>18</sub> O	2-Ethyl-1-hexanol	184.8	Nonazeotrope		334	
1616	C <sub>9</sub> H <sub>18</sub> O	2-Ethylheptanal	...	139.0	96.1	52	
<b>A =</b>	<b>C<sub>8</sub>H<sub>10</sub></b>	<b>o-Xylene</b>	<b>143.6</b>				
1617	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	144.25	81	372	
<b>A =</b>	<b>C<sub>8</sub>H<sub>10</sub></b>	<b>p-Xylene</b>	<b>138.4</b>				
1618	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	Nonazeotrope		52	
<b>A =</b>	<b>C<sub>8</sub>H<sub>14</sub>O<sub>3</sub></b>	<b>Bis(2-vinyloxyethyl) Ether</b>	<b>196.5/10 mm.</b>				
1619	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	Bis(2-ethoxyethyl) ether, 10 mm.	187.8	Nonazeotrope	v-1	69	
<b>A =</b>	<b>C<sub>8</sub>H<sub>16</sub>O<sub>2</sub></b>	<b>1,3-Dimethylbutyl Acetate</b>	<b>146.1</b>				
1620	C <sub>9</sub> H <sub>18</sub> O	2,6-Dimethyl-4- heptanone	169.4	Nonazeotrope		334	
<b>A =</b>	<b>C<sub>8</sub>H<sub>16</sub>O<sub>2</sub></b>	<b>2-Ethylhexanoic Acid</b>					
1621	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.15	...	<50	98	
<b>A =</b>	<b>C<sub>8</sub>H<sub>16</sub>O<sub>2</sub></b>	<b>Octanoic Acid</b>	<b>238.5</b>				
1622	C <sub>10</sub> H <sub>21</sub> NO	N,N-Dimethyloctan- amide, 100 mm.	187	190	26.0	295	
<b>A =</b>	<b>C<sub>8</sub>H<sub>16</sub>O<sub>3</sub></b>	<b>2-(2-Ethoxyethoxy) Ethyl Acetate</b>					
1623	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.15	Nonazeotrope		98	
<b>A =</b>	<b>C<sub>8</sub>H<sub>17</sub>Cl</b>	<b>3-(Chloromethyl) heptane</b>	<b>106.9/100 mm.</b>				
1624	C <sub>8</sub> H <sub>18</sub> O	2-Ethyl-1-hexanol, 100 mm.	124.8	106	98	335	
<b>A =</b>	<b>C<sub>8</sub>H<sub>18</sub>Cl<sub>2</sub>Sn</b>	<b>Dibutyltin Dichloride</b>	<b>157/17</b>				
1625	C <sub>12</sub> H <sub>27</sub> Cl <sub>2</sub> Sn	Tributyltin chloride, 17 mm.	166	Nonazeotrope		334	
<b>A =</b>	<b>C<sub>8</sub>H<sub>18</sub>O</b>	<b>Butyl Ether</b>	<b>142.1</b>				
1626	C <sub>8</sub> H <sub>18</sub> O	2-Ethyl-1-hexanol	184.8	Nonazeotrope		334	
<b>A =</b>	<b>C<sub>8</sub>H<sub>18</sub>O</b>	<b>2-Ethyl-1-hexanol</b>	<b>184.8</b>				
1627	C <sub>9</sub> H <sub>20</sub>	Nonane	150.8	Nonazeotrope		334	
1628	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethylhexyl acetate	198.4	Nonazeotrope		334	
1629	C <sub>11</sub> H <sub>25</sub> N	(2-Ethylhexyl) propylamine, 50 mm.	147	Nonazeotrope		334	
<b>A =</b>	<b>C<sub>8</sub>H<sub>18</sub>O</b>	<b>Octyl Alcohol</b>	<b>195.15</b>				
1630	C <sub>10</sub> H <sub>20</sub> O	Octyl vinyl ether, 5 mm.	64	64	17	341	
<b>A =</b>	<b>C<sub>8</sub>H<sub>18</sub>OS</b>	<b>2-Hexylthioethanol</b>					
1631	C <sub>10</sub> H <sub>20</sub> OS	2-Hexylthioethyl vinyl ether	...	Min. b.p.		329	

TABLE I BINARY SYSTEMS

No.	Formula	Name	B-Component		Azeotropic Data		
			B.P., °C.	B.P., °C.	Wt.%A	Ref.	
A =	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-Ethyl-1,3-hexanediol	243.1				
1632	C <sub>16</sub> H <sub>34</sub> O	Bis(2-ethylhexyl)ether, 10 mm.	135	123	40	335	
		" 269.8	241		-	335	
A =	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	2-(2-Butoxyethoxy)ethanol	231.2				
1633	C <sub>10</sub> H <sub>8</sub>	Naphthalene, 100 mm.	144.35	Nonazeotrope	v-1	144	
1634	C <sub>11</sub> H <sub>10</sub>	1-Methylnaphthalene, 20 mm.	...	...	46.8	98	
		" 100 mm.	...	...	64.3	98	
		" 200 mm.	...	...	74	98	
1635	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene, 20 mm.	...	...	38	98	
		" 100 mm.	...	...	53.5	98	
		"	241.15	...	82	98	
1636	C <sub>12</sub> H <sub>26</sub>	Dodecane, 100 mm.	146.2	142.6	34	v-1	144
1637	C <sub>15</sub> H <sub>30</sub>	1-Pentadecene, 217 mm.	183.7	185.16	87 vol. %	291	
A =	C <sub>9</sub> F <sub>21</sub> N	Tris(perfluoropropyl)amine	130				
1638	C <sub>9</sub> H <sub>12</sub>	Cumene	152	116	...	51	
A =	C <sub>9</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	2,4-Tolylene Diisocyanate	...				
1639	C <sub>9</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	2,6-Tolylene diisocyanate, 5-60 mm.	...	Nonazeotrope	v-1	53	
A =	C <sub>9</sub> H <sub>7</sub> N	Isoquinoline					
1640	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.15	...	<50	98	
A =	C <sub>9</sub> H <sub>7</sub> N	Quinoline	237.3				
1641	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.15	...	>50	98	
A =	C <sub>9</sub> H <sub>10</sub> O <sub>3</sub>	Ethyl Salicylate	233.7				
1642	C <sub>12</sub> H <sub>10</sub> O	Phenyl ether, 5 mm.	...	Nonazeotrope	v-1	118	
		" 50 mm.	...	Nonazeotrope	v-1	118	
		" 180 mm.	...	Nonazeotrope	v-1	118	
A =	C <sub>9</sub> H <sub>12</sub>	Cumene	...				
1643	C <sub>12</sub> F <sub>27</sub> N	Tris(perfluorobutyl)amine	177	138	...	51	
A =	C <sub>9</sub> H <sub>12</sub>	Mesitylene	164.7				
1644	C <sub>9</sub> H <sub>12</sub>	1,2,4-Trimethylbenzene	169.2	Nonazeotrope		96	
A =	C <sub>9</sub> H <sub>12</sub> OS	2-Benzylthioethanol	...				
1645	C <sub>11</sub> H <sub>14</sub> OS	2-Benzylthioethyl vinyl ether	...	Min. b.p.		329	
A =	C <sub>9</sub> H <sub>14</sub> O	Isophorone	...				
1646	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.15	Nonazeotrope		98	
A =	C <sub>9</sub> H <sub>18</sub>	Propyclohexane	156.72				
1647	C <sub>12</sub> F <sub>27</sub> N	Perfluorotributylamine	178.4	145.4	55 vol. %	207	
A =	C <sub>9</sub> H <sub>20</sub>	Nonane	151				
1648	C <sub>12</sub> F <sub>27</sub> N	Perfluorotributylamine	177	Min. b.p.		50	

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
A =	C <sub>9</sub> H <sub>20</sub> O	2,6-Dimethyl-4-heptanol	104/52			
1649	C <sub>12</sub> H <sub>24</sub>	2,6,8-Trimethyl-nonenе, 8 mm. " 52 mm.	... ...	56 95	18 32	334 334
A =	C <sub>9</sub> H <sub>20</sub> O <sub>4</sub>	Tripropylene Glycol	...			
1650	C <sub>12</sub> H <sub>9</sub> N	Carbazole	294	Nonazeotrope		100
1651	C <sub>13</sub> H <sub>10</sub>	Fluorene, high press.	...	Min. b.p.		100
1652	C <sub>14</sub> H <sub>10</sub>	Fluorene, low press. Phenanthrene "	...	Min. b.p. % glycol decreases with decreasing pressure	100	100
A =	C <sub>10</sub> H <sub>8</sub>	Naphthalene	218.1			
1653	C <sub>12</sub> H <sub>26</sub>	Dodecane, 100 mm.	...	140.2	59.2	v-l 144, 204
A =	C <sub>10</sub> H <sub>18</sub>	Decahydronaphthalene	...			
1654	C <sub>10</sub> H <sub>22</sub>	Decane, 10 mm. " 20 mm. " 50 mm.	... ... ...	Nonazeotrope Nonazeotrope Nonazeotrope	v-l v-l v-l	309 309 309
A =	C <sub>10</sub> H <sub>18</sub> O	Menthone	209.5			
1655	C <sub>10</sub> H <sub>20</sub> O	Menthol, 5 mm. " 50 mm. " 180 mm.	... ... ...	Nonazeotrope Nonazeotrope Nonazeotrope	v-l v-l v-l	118 118 118
A =	C <sub>10</sub> H <sub>22</sub>	3,3,5-Trimethyl-heptane	155.68			
1656	C <sub>12</sub> F <sub>27</sub> N	Perfluorotributyl-amine	178.4	147.3	55 vol. %	207
A =	C <sub>10</sub> H <sub>22</sub> O	Decyl Alcohol	232.9			
1657	C <sub>12</sub> H <sub>26</sub> O	Dodecyl alcohol, 20, 50, 100, 300 mm.	...	Ideal system	v-l	290
A =	C <sub>10</sub> H <sub>22</sub> OS	2-(2-Ethylhexylthio)ethanol	...			
1658	C <sub>12</sub> H <sub>24</sub> OS	2-(2-Ethylhexylthio)ethyl vinyl ether	...	Min. b.p.		329
A =	C <sub>10</sub> H <sub>22</sub> O <sub>4</sub>	Tripropylene Glycol Methyl Ether	...			
1659	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.15	...<50		98
A =	C <sub>11</sub> H <sub>10</sub>	1-Methylnaphthalene	244.8			
1660	C <sub>11</sub> H <sub>24</sub> O	5-Ethyl-2-nonal, 19 mm. " 50 mm. " 150 mm. " 200 mm. " 400 mm.	... ... ... ... ...	121 143 173 179.5 Nonazeotrope	41.4 25.2 5.25 2 98, 99	98, 99 98, 99 98, 99 98, 99 98, 99
A =	C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene	241.1			
1661	C <sub>11</sub> H <sub>24</sub> O	5-Ethyl-2-nonal, 20 mm. " 50 mm. " 90 mm. " 200 mm. " 300 mm. " 400 mm.	... ... ... ... ... ...	120 140.5 157 181.5 193.5 Nonazeotrope	49.8 36.0 24.5 9.0 3.5 98, 99	98, 99 98, 99 98, 99 98, 99 98, 99 98, 99

TABLE I BINARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Data		
				B.P., °C.	Wt.%A	Ref.
A = 1662	$C_{12}H_9N$ $C_{14}H_{30}O$	Carbazole	355			
		Tetradecanol	...	Nonazeotrope		100
1663	$C_{17}H_{36}O$	" Low press.	...	Min. b.p.		100
		Heptadecanol	...	Nonazeotrope		100
1664	$C_{12}H_{10}$ $C_{24}H_{38}O_4$	Biphenyl	255.9			
		Diethyl phthalate, 10 mm.	248	Nonazeotrope		334
A = 1665	$C_{12}H_{24}$ $C_{12}H_{26}O$	2,6,8-Trimethylnonene	...			
		2,6,8-Trimethyl- 4-nonanol, 50 mm.	137	Nonazeotrope		334
1666	$C_{12}H_{26}$ $C_{16}H_{34}$	Dodecane	216			
		Hexadecane, 10-760 mm.	...	Nonazeotrope	v-1	163
A = 1667	$C_{13}H_{10}$ $C_{14}H_{30}O$	Fluorene	294			
		Tetradecanol, " Low press.	...	Nonazeotrope		100
1668	$C_{17}H_{36}O$	" High press.	...	Min. b.p.		100
		Heptadecanol, " Low press.	...	Nonazeotrope		100
1669	$C_{14}H_{10}$ $C_{14}H_{30}O$	Phenanthrene	340			
		Tetradecanol	...	% Phenanthrene in- creases with pres- sure; min. b.p.		100
1670	$C_{17}H_{36}O$	Heptadecanol	...	% Phenanthrene in- creases with pres- sure; min. b.p.		100
A = 1671	$C_{16}H_{32}O_2$ $C_{18}H_{36}O_2$	Palmitic Acid	...			
		Stearic acid, 5 mm.	...	...	v-1	139
A = 1672	$C_{18}H_{34}O_2$ $C_{18}H_{34}O_3$	Oleic Acid	...			
		Ricinoleic acid, 5 mm.	...	...	v-1	139
1673	$C_{18}H_{36}O_2$	Stearic acid, 5 mm.	...	...	v-1	139
		Abietic acid, 1-10 mm.	...	Nonazeotrope	v-1	166



**Table II. Ternary Systems**

No.	A-Component		B-Component		C-Component		Azeotropic Data				
	Formula	Name	B <sub>o</sub> P. <sup>a</sup> C.	Formula	Name	B <sub>o</sub> P. <sup>a</sup> C.	Formula	Name	B <sub>o</sub> P. <sup>a</sup> C.	Composition, Wt. % B A	Ref.
1675 A	Argon	-185.7	N <sub>2</sub>	Nitrogen	-195.8	O <sub>2</sub>	Oxygen	-183	...	Nonazeotrope	v-1
1676 <sup>a</sup> CO	Carbon monoxide	-192	H <sub>2</sub>	Hydrogen	-252.7	N <sub>2</sub>	Nitrogen	-195.8	...	Nonazeotrope	v-1
1677 ClF <sub>3</sub>	Chlorine trifluoride	...	FH	Hydrogen fluoride	19.4	F <sub>6</sub> U	Uranium hexafluoride	56	...	Nonazeotrope	v-1
1678 ClH	Hydrogen chloride	-85	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>10</sub> H <sub>8</sub>	Naphthalene	218.1	189.6	...	...
1679 HF	Hydrogen fluoride	19.5	H <sub>2</sub> O	Water	100	C <sub>4</sub> HF <sub>7</sub> O <sub>2</sub>	Perfluorobutyric acid	...	108	12	28
1680 HNO <sub>3</sub>	Nitric acid	...	H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	...	3	5
1681 H <sub>2</sub> O	Water	100	SO <sub>2</sub>	Sulfur dioxide	-10	C <sub>2</sub> H <sub>4</sub> O	Acetadehyde	20.2	...	v-1	v-1
1682 H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	CH <sub>2</sub> O <sub>2</sub>	Formic acid	100.75	...	Nonazeotrope	v-1
1683 H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	CH <sub>4</sub> O	Methanol	64.7	52.6	4	81
1684 H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	C <sub>2</sub> H <sub>5</sub> N	Acetonitrile	81.6	...	Nonazeotrope	v-1
1685 H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	...	Nonazeotrope	v-1
1686 <sup>b</sup> H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	78.0	3.9	91.2
1687 H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	...	Nonazeotrope	4.9
1688 H <sub>2</sub> O	Water	100	CHCl <sub>3</sub>	Chloroform	61	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	...	Nonazeotrope	v-1
1689 H <sub>2</sub> O	Water	100	CH <sub>2</sub> O <sub>2</sub>	Formic acid	100.75	C <sub>2</sub> H <sub>4</sub> N <sub>2</sub>	Pyridine	115.5	...	Nonazeotrope	v-1
1690 H <sub>2</sub> O	Water	100	CH <sub>3</sub> NO <sub>2</sub>	Nitromethane	101	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	...	Nonazeotrope	v-1
1691 H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.3	C <sub>2</sub> Cl <sub>3</sub> F <sub>3</sub>	1,1,2-Tri-chlorotri-fluoroethane	47.5	39.4	0.6	3.0
1692 H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	...	Nonazeotrope	v-1
1693 H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>3</sub> H <sub>6</sub> O	Propionaldehyde	47.9	...	Nonazeotrope	v-1
1694 H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	57.1	...	Nonazeotrope	v-1
1695 H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	...	Nonazeotrope	v-1

<sup>a</sup>20 atm. to critical point.  
<sup>b</sup>20 P.s.i.g.

No.	A-Component			B-Component			C-Component			Azeotropic Data					
	Formula	Name	B <sub>o</sub> P., C.	Formula	Name	B <sub>o</sub> P., C.	Formula	Name	B <sub>o</sub> P., C.	Composition, Wt. %	B <sub>o</sub> P., C.	Ref.			
1696	H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acrylate	80.9	Nonazeotrope	334				
1697	H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Methyl propionate	79.85	Nonazeotrope	84				
1698	H <sub>2</sub> O	Water	100	CH <sub>4</sub> O	Methanol	64.7	C <sub>4</sub> H <sub>10</sub>	2-Methyl-propane	-11.7	Nonazeotrope	334				
1699	H <sub>2</sub> O	Water	100	C <sub>2</sub> Cl <sub>3</sub> F <sub>3</sub>	1,1,2-Tri-chloro-trifluoroethane	47.5	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	42.6	0.6	3.9	95.5	335	
1700	H <sub>2</sub> O	Water	100	C <sub>2</sub> HCl <sub>3</sub>	Trichloro-ethylene	86.2	C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol	97.1	71.4	7.5	80	12.5	334	
1701	H <sub>2</sub> O	Water	100	C <sub>2</sub> HCl <sub>3</sub>	Trichloro-ethylene	86.2	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	...	7.1	84.8	8.1	176	
1702	H <sub>2</sub> O	Water	.00	C <sub>2</sub> HCl <sub>3</sub>	Trichloro-ethylene	86.2	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	69.4	7	73	20	335	
1703	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>2</sub> N	Acetonitrile	81.6	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	72.9	1	44	55	335	
1704	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile	81.6	C <sub>4</sub> H <sub>11</sub> N	Diethylamine	55.5	...	...	...	...	334	
1705	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile	81.6	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	59	5	13	82	334	
1706	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile	81.6	C <sub>6</sub> H <sub>15</sub> N	Triethylamine	89.7	68.6	6	31	63	334	
1707	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	1,2-Dichloro-ethane	83.5	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	67.8	7.2	77.1	15.7	335	
1708	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	1,2-Dichloro-ethane	83.5	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	69.7	7.7	73.3	19.0	335	
1709	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>4</sub> O	Acetaldehyde	20.2	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	...	...	...	...	133	
1710	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>4</sub> O	Acetaldehyde	20.2	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	Paraldehyde	124	...	...	...	...	334	
1711	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>5</sub> ClO	2-Chloro-ethanol	128.7	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	...	...	...	...	334	
1712	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>3</sub> H <sub>3</sub> N	Acrylonitrile	77.2	69.5	8.7	20.3	71.0	335	
	"	"	"	"	Ethyl alcohol	"	"	Acrylonitrile	"	100 mm.	<30	6.6	9.0	84.4	335
1713	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Acetone	56.1	...	...	...	...	334	
1714	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>4</sub> H <sub>6</sub> O	Ethyl formate	54.2	...	...	...	...	334	
1715	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>4</sub> H <sub>6</sub> O	Crotonaldehyde	102.4	78.0	4.8	87.9	7.3	335	

TABLE II TERNARY SYSTEMS

No.	Formula	Name	A-Component			B-Component			C-Component			Azeotropic Data		
			B <sub>o</sub> P., °C.	Formula	Name	B <sub>o</sub> P., °C.	Formula	Name	B <sub>o</sub> P., °C.	Formula	Name	B <sub>o</sub> P., °C.	Composition, Wt. %	Ref.
1716	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	73.2	1.1	75	335	
1717	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>4</sub> H <sub>8</sub> O	Butyraldehyde	75.7	67.2	9	11	80	335
1718	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>4</sub> H <sub>8</sub> O	Ethyl vinyl ether	35.5				Nonazeotropic	334
1719	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>4</sub> H <sub>11</sub> N	Butylamine	77.8	81.8	7.5	42.5	50.0	335
1720	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acrylate	99.3	77.1	10.1	48.3	41.6	335
1721	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>5</sub> H <sub>10</sub> O	1-Butenyl methyl ether	61.4	44	8.6	36.3	55.1	335
1722	H <sub>2</sub> C	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>5</sub> H <sub>10</sub> O	Propyl vinyl ether	65.1	57	5.1	21.2	73.7	335
1723	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.7	74.8	9.8	19.4	70.8	335
1724	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>5</sub> H <sub>12</sub> O	Butyl methyl ether	70.3	62	6.3	8.6	85.1	335
1725	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>5</sub> H <sub>12</sub> O	Isoamyl alcohol	132				Nonazeotropic	v-1
1726	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>12</sub>	Cyclonexane	80.7	62.60	4.8	19.7	75.5	361
1727	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>12</sub> O	Isobutyl vinyl ether	80.7	62.1	7	17	76	335
1728	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>14</sub>	Hexane	68.22	56.4	3	18.7	78.3	326
1729	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>14</sub> O	Butyl ethyl ether	68.7	56.0	3	12	85	335
1730	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>14</sub> O	Ethyl isobutyl ether	92.2	71.6	9.3	4.2	86.5	335
1731	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	79	66	6.5	15.8	77.7	334
1732	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>14</sub> O	Toluene	68.3	61.0	4.0	6.5	89.5	335
1733	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>7</sub> H <sub>8</sub>	Methylcyclohexane	100 p.s.i.g.	128.5	9.1	14.2	76.7	335
1734	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>7</sub> H <sub>14</sub>	" 50 p.s.i.g.	105.8	7.1	11.9	81	335	334
1735	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>7</sub> H <sub>16</sub>	Isopropyl ether	...	66	7.0	14.7	78.3	334
1736	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>8</sub> H <sub>8</sub>	Heptane	98.4	68.8	6.1	33.0	60.9	335
													Styrene	145.1

No.	A-Component		B-Component		C-Component		Azeotropic Data			Ref.
	Formula	Name	B.P. <sup>a</sup> °C.	Formula	Name	B.P. <sup>a</sup> °C.	Name	B.P., °C.	Composition; Wt. % A      B      C	
1737	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>8</sub> H <sub>18</sub> O C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	Butyl ether	142.1	Nonazeotrope
1738	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	2-Ethyl-1,3-hexanediol	243.1	Nonazeotrope
1739	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>7</sub> N	Dimethyl-amine	7.4	C <sub>4</sub> H <sub>11</sub> NO	2-(Dimethyl-amino)ethanol	134.6	Nonazeotrope
1740	H <sub>2</sub> O	Water	100	C <sub>2</sub> H <sub>8</sub> N <sub>2</sub>	Ethylene-diamine	116.9	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotrope
1741	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>3</sub> N	Acrylonitrile	77.2	C <sub>3</sub> H <sub>5</sub> N	Propio-nitrile	97.4	Nonazeotrope
1742	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>4</sub> O	2-Propyn-1-ol	115	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	3,3-Dimethyl-oxypropane	111	Nonazeotrope
1743	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>4</sub> O	2-Propyn-1-ol	115	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotrope
1744	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	Acrylic acid	141.2	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acrylate	99.3	Nonazeotrope
1745	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub>	1,2-Dichloro-propane	96.3	C <sub>3</sub> H <sub>7</sub> ClO	Propylene chloro-hydrin	127.4	Nonazeotrope
1746	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	Nonazeotrope
1747	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Vinyl acetate	72.7	Nonazeotrope
1748	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>4</sub> H <sub>8</sub> O C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	Nonazeotrope
1749	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>4</sub> H <sub>8</sub> O	Butyraldehyde	74.8	Nonazeotrope
1750	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.6	Nonazeotrope
1751 <sup>c</sup>	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	Nonazeotrope
1752	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>n</sub> H <sub>2n+2</sub>	Paraffin hydrochloride	... 61-71	Nonazeotrope
1753	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol	96.6	C <sub>6</sub> H <sub>14</sub>	Hexane	68.8	Nonazeotrope
1754	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol	96.6	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	Nonazeotrope
1755	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol	96.6	C <sub>9</sub> H <sub>16</sub> O <sub>2</sub>	2,2-Bis(allyloxy) propane	88	Nonazeotrope

TABLE II TERNARY SYSTEMS

No.	Formula	Name	A-Component		B-Component		C-Component		Azeotropic Data				
			B.P. °C.	Formula	B.P. °C.	Name	Formula	Name	B.P. °C.	B.P., Composition A B C Wt. %	Ref.		
1756	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Propionic acid	140.7	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Methyl propionate	79.8	Nonazeotropic	84		
1757	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	73.4	11	1	88
1758	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>4</sub> H <sub>11</sub> N	Butylamine	77.8	83	12.5	40.5	47
1759	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.7	75.5	11	13	76
1760	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	65.7	8.2	19.8	72.0
1761	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	90	10	18	72	335
1762	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>6</sub> H <sub>14</sub> O	Butyl ethyl ether	92.2	73.4	10.4	21.9	67.7
1763	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	61.8	5	4	91
	"	"				"		15 p.s.i.g.	95	6	9	85	335
1764	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>6</sub> H <sub>15</sub> N	Diisopropyl-amine	81	6	7	87	335
1765	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	76.3	13.1	38.2	48.7
1766	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>8</sub> H <sub>14</sub>	Diisobutyl-ene	102.3	72.3	9.3	31.6	59.1
1767 <sup>d</sup>	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>3</sub> H <sub>8</sub> S	1- <i>Propane-thiol</i>	67.5	60.8	...	...	...
1768	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>5</sub> H <sub>10</sub> O	3-Pentanone	101.8	81.2	20	20	60
1769	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>3</sub> H <sub>10</sub> O <sub>2</sub>	Propyl acetate	101.6	50.23	13.3	4.7	82.0
	"	"				"		200 mm.	66.07	15.0	6.5	78.5	v-1
	"	"				"		400 mm.	76.26	16.0	8.5	75.5	v-1
	"	"				"		600 mm.	82.45	17.0	10.0	73.0	v-1
1770	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	68.5	8.6	9.0	82.4
1771	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	Cyclohexane	80.7	66.6	8.5	10.0	81.5	

No.	A-Component	B-Component			C-Component			Azeotropic Data						
		B. <sup>o</sup> P. °C.	Formula	Name	B. <sup>o</sup> P. °C.	Formula	Name	B. <sup>o</sup> P. °C.	Composition, Wt. %	B. <sup>o</sup> P. °C.				
1772	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>6</sub> H <sub>12</sub> O	2-Hexanone	127.2	87	27	63	10	123
1773	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>6</sub> H <sub>12</sub> O	2-Methylpentanal	118.3	86	28	58	14	334
1774	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.3	C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	Dipropoxyethane	146.6	87.6	27.4	51.6	21.0	334
1775	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol	124.6	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	...	...	...	...	334
1776	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol	124.6	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.7	...	...	...	...	334
1777	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol	124.6	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	...	...	...	...	334
1778	H <sub>2</sub> O	Water	100	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	1,2-Propane-diol	187.8	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	...	...	...	...	334
1779	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	Crotonaldehyde	102.4	C <sub>6</sub> H <sub>10</sub> O	2-Ethylcrotonaldehyde	135.3	...	...	...	...	334
1780	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	2-Butanone	79.6	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	68.2	8.8	26.1	65.1	334
1781	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	2-Butanone	79.6	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.7	63.6	5	35	60	334
1782	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	2-Butanone	79.6	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	55	1	22	77	334
1783	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	Butyraldehyde	74.8	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.9	...	...	...	...	334
1784	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	Butyraldehyde	74.8	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	1,1-Dimethyl-oxyethane	64.5	...	...	...	...	334
1785	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>6</sub> O	Butyraldehyde	74.8	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.1	...	...	...	...	334
1786	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>8</sub> O	Butyraldehyde	74.8	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	55	4	21	75	334
1787	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	C <sub>4</sub> H <sub>10</sub> O	sec-Butyl alcohol	99.5	...	...	...	...	334
1788	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	C <sub>4</sub> H <sub>10</sub> S	1-Butane-thiol	97.5	78.6	...	...	...	181
1789	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	C <sub>4</sub> H <sub>11</sub> N	Butylamine	77.8	...	...	...	...	334
1790	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>6</sub> H <sub>12</sub> O	Butyl vinyl ether	94.2	77.4	10	2	88	335
1791	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.1	90.7	29	8	63	335
1792	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>6</sub> H <sub>14</sub>	Hexane	68.95	61.5	19.2	2.9	77.9	174

TABLE II TERNARY SYSTEMS

No.	Formula	Name	A-Component		B-Component		C-Component		Azeotropic Data			Ref.	
			B. <sup>o</sup> P. C.	Formula	Name	B. <sup>o</sup> P. C.	Formula	Name	B. <sup>o</sup> P. C.	Composition A	Wt. <sup>o</sup> % C		
1793	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acrylate	147 98.4	92 78.1	37.6 41.4	12.4 7.6	76 33
1794	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>7</sub> H <sub>16</sub>	Heptane	100 mm. 100 mm.	46 41.4	26 7.6	33 51	335 174
1795	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	86.1	60	14.6	25.4
1796	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1 100 mm.	90.6 45	29.9 31.2	34.6 24.6	35.5 44.2
1797	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>8</sub> H <sub>19</sub> N	Diethyl- amine	159.6			Nonazeotrope	335 335 334
1798	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	90	69.9	18.3	11.8
1799	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>9</sub> H <sub>20</sub> O <sub>2</sub>	Dibutoxy- methane	181.8			Nonazeotrope	334
1800	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>4</sub> H <sub>10</sub> O	<u>tert</u> -Butyl alcohol	82.6			Nonazeotrope	334
1801	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1, 200 mm. " " " "	38.2	7	5	88
	"	"	"	"	"	"	"	"	300 mm. 400 mm. 500 mm. 665 mm.	47.0 53.8 59.0 65.5	7 7 7 8	87 87 87 86	67
1802	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	<u>sec</u> -Butyl acetate	112.2 101.1	85.5 77.1	20.2 11.9	27.4 21.9	52.4 66.4
1803	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>7</sub> H <sub>14</sub>	Methyl- cyclohexane	98.4	75.8	10.9	22.2	66.9
1804	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>7</sub> H <sub>16</sub>	Heptane	102.3	77.5	11	19	70
1805	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>8</sub> H <sub>14</sub>	Diisobutyl- ene	...	76.3	10.6	21.9	67.5
1806	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>8</sub> H <sub>18</sub>	Iso-octane	142.1	86.6	24.7	56.1	19.2
1807	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	<u>sec</u> -Butyl alcohol	99.4	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1	86.6	24.7	56.1	19.2
1808	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.9	C <sub>9</sub> H <sub>20</sub> O <sub>2</sub>	Diisobutoxy- methane	163.8			Nonazeotrope	334
1809	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	2-Ethoxy- ethanol	135.6	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7			Nonazeotrope	334
1810	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	2-Ethoxy- ethanol	135.6	C <sub>10</sub> H <sub>20</sub> O	2-Ethylhexyl vinyl ether	177.7	97.7	51	11	38

No.	Formula	Name	A-Component		B-Component		C-Component		Azeotropic Data			v.1	
			B.P., °C.	Name	Formula	Name	B.P., °C.	Formula	Name	B.P., °C.	B.P., °C.	Wt. % C	
1811	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>11</sub> N	Butylamine	77.8	C <sub>8</sub> H <sub>19</sub> N	Dibutyl- amine	159.6	78.6	13.5	70.5	Nonazeotrope
1812	H <sub>2</sub> O	Water	100	C <sub>4</sub> H <sub>11</sub> N	Diethyl- amine	55.5	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	85.7	22.5	52	Nonazeotrope
1813	H <sub>2</sub> O	Water	100	C <sub>8</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	90.5	30.5	32.5	Nonazeotrope
1814	H <sub>2</sub> O	Water	100	C <sub>8</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>8</sub> H <sub>18</sub>	Octane	125.7	92.3	36.5	45.5	Nonazeotrope
1815	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>9</sub> H <sub>20</sub>	Decane	173.3	93.1	38.5	51	Nonazeotrope
1816	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>10</sub> H <sub>22</sub>	Undecane	194.5	216	40.5	54.5	Nonazeotrope
1817	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>11</sub> H <sub>24</sub>	Dodecane	194.5	216	40.5	54.5	Nonazeotrope
1818	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>5</sub> N	Ethyldiethyl- ether	99.3	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	80.1	30.5	32.5	Nonazeotrope
1819	H <sub>2</sub> O	Water	100	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	Acrylate	102.3	C <sub>6</sub> H <sub>6</sub>	Diamyloxy- methane	120	86.6	30.5	32.5	Nonazeotrope
1820	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>10</sub> O	2-Pentanone	138.0	C <sub>11</sub> H <sub>24</sub> O	3-Methyl- 1-butane- thiol	176	Nonazeotrope			
1821	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>12</sub> O	Amyl alcohol	138.0	C <sub>5</sub> H <sub>12</sub> S	Hexyl- alcohol	120	86.6	30.5	32.5	Nonazeotrope
1822*	H <sub>2</sub> O	Water	100	C <sub>5</sub> H <sub>12</sub> O	Isoamyl alcohol	132	C <sub>5</sub> H <sub>12</sub> S	Paraldehyde	124.5	Nonazeotrope			
1823	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>14</sub> O	Cyclohexanol	160.6	Nonazeotrope			
1824	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>5</sub> N	2-Picoline	128.8	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	sec-Butyl acetate	112.2	Nonazeotrope			
1825	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>10</sub> O	Cyclohexa- none	155.6	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	142.1	Nonazeotrope			
1826	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.1	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1	Nonazeotrope			
1827	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.1	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1	Nonazeotrope			
1828	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	sec-Butyl acetate	112.2	C <sub>8</sub> H <sub>18</sub> O	Toluene	110.6	Nonazeotrope			
1829	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	2-Ethoxy- ethyl acetate	156.2	C <sub>7</sub> H <sub>8</sub>	Triethyl- amine	89.7	Nonazeotrope			
1830	H <sub>2</sub> O	Water	100	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	C <sub>6</sub> H <sub>15</sub> N	Decyl alcohol	217.3	Nonazeotrope			
1831	H <sub>2</sub> O	Water	100	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	C <sub>10</sub> H <sub>22</sub> O	(isomers)	176	Nonazeotrope			

TABLE II TERNARY SYSTEMS

No.	A-Component			B-Component			C-Component			Azeotropic Data		
	Formula	Name	B. <sup>o</sup> P. C.	Formula	Name	B. <sup>o</sup> P. C.	Formula	Name	B. <sup>o</sup> P. C.	B. <sup>o</sup> P. C.	Composition, Wt. %	Ref.
1832	H <sub>2</sub> O	Water	100	C <sub>7</sub> H <sub>8</sub>	Toluene	110.6	C <sub>12</sub> H <sub>26</sub> O	2,6,8-Tri-methyl-4-nonanol	225.5	Nonazeotropic	v-1	334
1833	CCl <sub>4</sub>	Carbon tetrachloride	76.75	C <sub>2</sub> HCl <sub>3</sub>	Trichloro-ethylene	86.2	C <sub>4</sub> H <sub>8</sub> O	Acetic acid	118.1	Nonazeotropic	v-1	184
1834	CHCl <sub>3</sub>	Chloroform	61	CH <sub>2</sub> O <sub>2</sub>	Formic acid	100.75	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetone	56.1	57.5	46.7	56
1835	CHCl <sub>3</sub>	Chloroform	61	CH <sub>4</sub> O	Methanol	64.7	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	57.1	56.42	51.4	335
1836	CHCl <sub>3</sub>	Chloroform	61	CH <sub>4</sub> O	Methanol	64.7	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Acetone	56.1	21.6	27	31,143
1837	CHCl <sub>3</sub>	Chloroform	61	CH <sub>4</sub> O	Methanol	64.7	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	Nonazeotropic	v-1	184
1838	CHCl <sub>3</sub>	Chloroform	61	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	63.2	65.3	334
1839	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.4	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	Nonazeotropic	v-1	224
1840	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.4	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	115.9	Nonazeotropic	v-1	62
1841	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.4	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	Nonazeotropic	v-1	157
1842	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.4	C <sub>7</sub> H <sub>8</sub> Br	Toluene	110.7	Nonazeotropic	v-1	334
1843	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Ethyl formate	54.1	C <sub>3</sub> H <sub>7</sub> Br	2-Bromo-propane	59.4	61.97	79	296
1844	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	57.1	C <sub>3</sub> H <sub>7</sub> Br	2-Bromo-propane	59.4	Nonazeotropic	v-1	195
1845	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>7</sub> Br	2-Bromo-propane	59.4	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Isopropyl formate	68.8	Nonazeotropic	v-1	195
1846	CHCl <sub>3</sub>	Chloroform	61	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	Nonazeotropic	v-1	334
1847	CH <sub>2</sub> Cl <sub>2</sub>	Dichloromethane	40.0	CH <sub>4</sub> O	Methanol	64.7	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	2-(2-Butoxy-ethoxy)ethanol	230.6	Nonazeotropic	v-1	334
1848	CH <sub>3</sub> NO <sub>2</sub>	Nitromethane	101.2	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Nonazeotropic	v-1	343
1849 <sup>f</sup>	CH <sub>4</sub>	Methane	-161.5	C <sub>2</sub> H <sub>6</sub>	Ethane	-88.6	C <sub>3</sub> H <sub>8</sub>	Propane	-44	Nonazeotropic	v-1	268
1850	CH <sub>4</sub> O	Methanol	64.7	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>3</sub> H <sub>8</sub> O	Acetone	56.1	Nonazeotropic	v-1	7
1851	CH <sub>4</sub> O	Methanol	64.5	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	56.3	53.7	17.4	335
1852	CH <sub>4</sub> O	Methanol	64.5	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>6</sub> H <sub>14</sub>	Hexane	68.95	47	14.6	105
1853	CH <sub>4</sub> O	Methanol	64.5	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	56.3	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	45	27	335

<sup>f</sup> 200° to 50° F.

No.	A-Component		B-Component		C-Component		Azeotropic Data		
	Formula	Name	B.P. <sup>°</sup> C.	Formula	Name	B.P. <sup>°</sup> C.	Formula	Name	B.P. <sup>°</sup> C.
1854	CH <sub>4</sub> O	Methanol	64.7	C <sub>3</sub> H <sub>7</sub> BO <sub>3</sub>	Trimethyl borate	68.7	C <sub>4</sub> H <sub>8</sub> O	Tetrahydro-furan	65
1855	CH <sub>4</sub> O	Methanol	64.7	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclonexane	80.75
1856 <sup>a</sup>	C <sub>2</sub> H <sub>2</sub>	Acetylene	-84	C <sub>2</sub> H <sub>4</sub>	Ethylene	-104	C <sub>2</sub> H <sub>6</sub>	Ethane	-88
1857	C <sub>2</sub> H <sub>3</sub> N	Acetonitrile	81.6	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>15</sub> N	Triethyl-amine	89.7
1858	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	1,2-Dichloro-ethane	83.45	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.4	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1
1859	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>3</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4
1860	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>3</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>8</sub> H <sub>10</sub>	Ethyl-benzene	136.15
1861	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>8</sub> H <sub>10</sub>	9-Xylene	143.6
1862	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>8</sub> H <sub>18</sub>	Octane	125.75
1863	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7
1864	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>10</sub> H <sub>22</sub>	Decane	173.3
1865	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>11</sub> H <sub>24</sub>	Undecane	194.5
1866	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>6</sub> H <sub>7</sub> N	2-Picoline	134	C <sub>8</sub> H <sub>18</sub>	Octane	125.75
1867	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>6</sub> H <sub>7</sub> N	2-Picoline	134	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7
1868	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>6</sub> H <sub>7</sub> N	2-Picoline	134	C <sub>10</sub> H <sub>22</sub>	Decane	173.3
1869	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>6</sub> H <sub>7</sub> N	2-Picoline	134	C <sub>11</sub> H <sub>24</sub>	Undecane	194.5
1870	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>6</sub> H <sub>9</sub> N	2,6-Lutidine	144	C <sub>8</sub> H <sub>18</sub>	Octane	125.75
1871	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine	144	C <sub>10</sub> H <sub>22</sub>	Decane	173.3
1872	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine	144	C <sub>11</sub> H <sub>24</sub>	Undecane	194.5
1873	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	Acetic acid	118.1	C <sub>8</sub> H <sub>10</sub>	Ethyl-benzene	136.15	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7
1874	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	Nitroethane	114.2	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	p-Dioxane	101.3	C <sub>4</sub> H <sub>10</sub> O	Isobutyl-alcohol	108
1875	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane	72
1876	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75
1877	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>14</sub>	Hexane	68.95
1878	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	100.88

6-35°, 0°, 40° F.

TABLE II TERNARY SYSTEMS

No.	A-Component		B-Component		C-Component		Azeotropic Data					Ref.	
	Formula	Name	B.P. °C.	Formula	Name	B.P. °C.	Formula	Name	B.P., °C.	B.P., °C.	Composition, Wt. %		
1879	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>7</sub> H <sub>6</sub>	Heptane	98.4, 180-760 mm.	Heptane	74.2	v-1	240,339
1880	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>7</sub> N	Aniline	184.35	C <sub>7</sub> H <sub>8</sub>	Toluene	32.38 180 mm.	Nonazeotropic	3.4	v-1	244
1881	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>6</sub> H <sub>7</sub> N	Aniline	184.35	C <sub>7</sub> H <sub>6</sub>	Heptane	98.4	Nonazeotropic	v-1	v-1	138
1882	C <sub>2</sub> H <sub>6</sub> O	Ethyl alcohol	78.3	C <sub>7</sub> H <sub>8</sub> O	Toluene	110.7	C <sub>7</sub> H <sub>6</sub>	Heptane	98.4	Nonazeotropic	v-1	v-1	138
1883	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	Ethylene glycol	196.7	o-Cresol	191	g-Collidine	171.30	189.65	33.6	62.4	4.0	v-1	188
1884	C <sub>3</sub> H <sub>4</sub>	Propadiene	-32	C <sub>3</sub> H <sub>4</sub>	Propyne	-23.2	C <sub>3</sub> H <sub>6</sub>	Propene	-47.7	Nonazeotropic	334	334	334
1885	C <sub>3</sub> H <sub>4</sub>	Propadiene	-32	C <sub>3</sub> H <sub>4</sub>	Propyne	-23.2	C <sub>3</sub> H <sub>8</sub>	Propane	-42.1	Nonazeotropic	334	334	334
1886	C <sub>3</sub> H <sub>4</sub>	Propadiene	-32	C <sub>3</sub> H <sub>4</sub>	Propyne	-23.2	C <sub>4</sub> H <sub>6</sub>	Butadiene	-4.5	Nonazeotropic	334	334	334
1887	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Acetone	56.1	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acetate	56.3	C <sub>6</sub> H <sub>14</sub>	Hexane	68.7	45	7	48	334
1888	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>3</sub> H <sub>8</sub> O	Isopropyl acetate	82.3	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.7	Nonazeotropic	334	334	334
1889	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>6</sub> H <sub>5</sub> Cl	Chlorobenzene	131.8	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	Nonazeotropic	v-1	v-1	109
1890	C <sub>3</sub> H <sub>6</sub> O	Acetone	56.1	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Nonazeotropic	v-1	v-1	185
1891	C <sub>3</sub> H <sub>6</sub> O	Allyl alcohol	97.1	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	C <sub>9</sub> H <sub>16</sub> O <sub>2</sub>	2,2-Bis(allyloxy)propane	...	Nonazeotropic	v-1	v-1	334
1892	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Propionic acid	140.7	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>11</sub> H <sub>24</sub>	Undecane	194.5	147.1	55.5	26.4	18.1
1893	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate	76.7	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.7	68.3	...	...	334
1894	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	Isopropyl acetate	88.7	C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether	68.3	Nonazeotropic	334	334	334
1895	C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol	82.3	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Azeotrope	209	209	209
1896	C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol	97.25	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	73.75	18	28	54
1897	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol	124.5	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	73	9	39.1	51.9
1898 <sup>b</sup>	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol	124.5	C <sub>8</sub> H <sub>8</sub>	Styrene	144	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136.15	Nonazeotropic	v-1	v-1	152
1899	C <sub>4</sub> H <sub>8</sub> O	2-Butanone	79.6	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Nonazeotropic	v-1	v-1	61.74
				"				14.7-186.8 p.s.i.a.		Nonazeotropic	v-1	v-1	61.321

No.	Formula	A-Component		B-Component		C-Component		Azeotropic Data		
		Name	B.P., °C.	Formula	Name	B.P., °C.	Formula	Name	B.P., °C.	Composition, Wt. %
1900	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Butyric acid	162.45	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>1</sub> H <sub>24</sub>	Undecane	194.5	Nonazeotrope
1901	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate	77.05	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Nonazeotrope
1902	C <sub>4</sub> H <sub>9</sub> Cl <sub>3</sub> Sn	Butyltin trichloride	113/17	C <sub>8</sub> H <sub>18</sub> Cl <sub>2</sub> Sn	Dibutyltin dichloride	157/17	C <sub>12</sub> H <sub>27</sub> Cl <sub>2</sub> Sn	Tributyltin chloride	166/17	Nonazeotrope
1903	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol	107.0	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	76.73
1904	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	C <sub>4</sub> H <sub>11</sub> N	Butylamine	77.8	C <sub>8</sub> H <sub>19</sub> N	Diethyl-amine	159.6	Nonazeotrope
1905	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>5</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	108.7
1906	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.75	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	77.42
1907	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol	117.7	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate	126.1	C <sub>8</sub> H <sub>18</sub> O	Butyl ether	142.1	Nonazeotrope
1908	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	2-Ethoxy-ethanol	135.1	C <sub>8</sub> H <sub>8</sub>	Styrene	145	C <sub>8</sub> H <sub>10</sub>	Ethyl-benzene	136.15, 5 mm.	Nonazeotrope
1909	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	2-Ethoxy-ethanol	135.1	C <sub>8</sub> H <sub>10</sub>	Ethyl-benzene	136.15	C <sub>8</sub> H <sub>18</sub>	Octane	125.75	Nonazeotrope
1910	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde	161.7	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	Nonazeotrope
1911	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde	161.7	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	101.1	Nonazeotrope
1912	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde	161.7	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	Nonazeotrope
1913	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde	161.7	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	101.1	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	Nonazeotrope
1914	C <sub>3</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>3</sub> H <sub>12</sub> O	Isoamyl alcohol	131	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	110.19
1915	C <sub>3</sub> H <sub>5</sub> N	Pyridine	115.5	C <sub>8</sub> H <sub>10</sub>	Ethyl-benzene	136.15	C <sub>9</sub> H <sub>20</sub>	Nonane	150.7	Nonazeotrope
1916	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>6</sub> H <sub>12</sub>	Cyclohexane	80.75	C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone	115.9	Nonazeotrope
1917	C <sub>6</sub> H <sub>6</sub>	Benzene	80.1	C <sub>7</sub> H <sub>16</sub>	2,3-Dimethyl-pentane	89.8	C <sub>12</sub> F <sub>27</sub> N	Perfluorotributyl-amine	...	Nonazeotrope

TABLE I BINARY SYSTEMS

No.	Formula	A-Component		B-Component		C-Component		Azeotropic Data		
		Name	B.P., °C.	Formula	Name	B.P., °C.	Formula	Name	B.P., °C.	B.P., °C.
1918 <sup>i</sup>	C <sub>6</sub> H <sub>6</sub> O	Phenol	182	C <sub>6</sub> H <sub>10</sub> O	Cyclohexanone	155.6	C <sub>6</sub> H <sub>12</sub> O	Cyclohexanol	160.65	Nonazeotrope
1919	C <sub>6</sub> H <sub>6</sub> O	Phenol	182	C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	Ethylene diacetate	186	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	Phenyl acetate	195.7	194.45
1920	C <sub>6</sub> H <sub>7</sub> N	Aniline	184.35	C <sub>6</sub> H <sub>12</sub> O	Cyclohexanol	160.65	C <sub>6</sub> H <sub>13</sub> N	Cyclohexylamine	...	Nonazeotrope
1921 <sup>j</sup>	C <sub>6</sub> H <sub>7</sub> N	Aniline	184.35	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane	101.1	Evaporation data
1922	C <sub>6</sub> H <sub>7</sub> N	Aniline	184.35	C <sub>7</sub> H <sub>8</sub>	Toluene	110.7	C <sub>7</sub> H <sub>16</sub>	Heptane	98.4	Nonazeotrope
1923 <sup>k</sup>	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	Hexylene glycol	...	C <sub>8</sub> H <sub>10</sub>	Ethylbenzene	136.15	C <sub>8</sub> H <sub>16</sub>	Ethylcyclohexane	131.8	Nonazeotrope
1924	C <sub>7</sub> H <sub>8</sub> O	<u>x</u> -Cresol	202	C <sub>7</sub> H <sub>9</sub> N	Pyridine bases	143	C <sub>10</sub> H <sub>8</sub>	Naphthalene	218.1	202.48
1925	C <sub>7</sub> H <sub>8</sub> O	<u>x</u> -Cresol	202	C <sub>7</sub> H <sub>9</sub> N	Pyridine bases	157	C <sub>10</sub> H <sub>8</sub>	Naphthalene	218.1	202.03
1926	C <sub>7</sub> H <sub>8</sub> O	<u>x</u> -Cresol	202	C <sub>7</sub> H <sub>9</sub> N	Pyridine bases	163	C <sub>10</sub> H <sub>8</sub>	Naphthalene	218.1	202.39

<sup>i</sup>90 mm.<sup>j</sup>80° to 100° C.<sup>k</sup>400 mm.

**Table III. Quaternary Systems**

No.	Formula	Name	B.P., °C.	Azeotropic Composition			Ref.
				A	B	C	
1927	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_5\text{N}$ C $\text{C}_2\text{H}_5\text{O}$ D $\text{C}_6\text{H}_{15}\text{N}$	Water Acetonitrile Ethyl alcohol Triethylamine	100 81.6 78.3 89.7	Nonazeotrope			334
1928	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_5\text{O}$ C $\text{C}_6\text{H}_6\text{O}$ D $\text{C}_4\text{H}_8\text{O}_2$	Water Ethyl alcohol Crotonaldehyde Ethyl acetate	100 78.3 102.2 77.1	70	8.7	11.1 0.1	84
1929	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_5\text{O}$ C $\text{C}_6\text{H}_6$ D $\text{C}_6\text{H}_{12}$	Water Ethyl alcohol Benzene Cyclohexane	100 78.3 80.1 80.75	62.19 62.14	7.1 6.1	17.4 19.2 21.5 20.4	357 322,361
1930	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_6\text{O}$ C $\text{C}_6\text{H}_6$ D $\text{C}_7\text{H}_{14}$	Water Ethyl alcohol Benzene Hexane	100 78.3 80.1 68.95		Nonazeotrope		326
1931	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_6\text{O}$ C $\text{C}_6\text{H}_6$ D $\text{C}_7\text{H}_{14}$	Water Ethyl alcohol Benzene Methylcyclohexane	100 78.3 80.1 100.88		Nonazeotrope		326
1932	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_6\text{O}$ C $\text{C}_6\text{H}_6$ D $\text{C}_7\text{H}_{16}$	Water Ethyl alcohol Benzene Heptane	100 78.3 80.1 98.4	64.79	6.8	18.7 62.4 12.1	325
1933	A $\text{H}_2\text{O}$ B $\text{C}_2\text{H}_6\text{O}$ C $\text{C}_6\text{H}_6$ D $\text{C}_8\text{H}_{18}$	Water Ethyl alcohol Benzene Iso-octane	100 78.3 80.1 ...	64.69	6.7	17.7 61.4 14.1	325

TABLE II TERNARY SYSTEMS

No.	Formula	Name	B.P., °C.	Azeotropic Composition				Ref.
				A	B	C	D	
1934	A $\text{H}_2\text{O}$ B $\text{C}_3\text{H}_6\text{O}$ C $\text{C}_7\text{H}_8$ D $\text{C}_n\text{H}_{2n+2}$	Water Isopropyl alcohol Toluene Paraffins	100 82.3 110.7 ...	Min. b.p.				178
1935	A $\text{H}_2\text{O}$ B $\text{C}_4\text{H}_{10}\text{O}$ C $\text{C}_6\text{H}_{12}\text{O}_2$ D $\text{C}_8\text{H}_{18}\text{O}$	Water Butyl alcohol Butyl acetate Butyl ether	100 117.7 126.1 142.1	90.6	30	13	51	6 335
1936	A $\text{C}_2\text{H}_4\text{O}_2$ B $\text{C}_5\text{H}_5\text{N}$ C $\text{C}_8\text{H}_{10}$ D $\text{C}_9\text{H}_{20}$	Acetic acid Pyridine Ethylbenzene Nonane	118.1 115.5 136.15 150.7	127.9	17	27	18	38 322, 363
1937	A $\text{C}_2\text{H}_4\text{O}_2$ B $\text{C}_5\text{H}_5\text{N}$ C $\text{C}_8\text{H}_{10}$ D $\text{C}_9\text{H}_{20}$	Acetic acid Pyridine o-Xylene Nonane	118.1 115.5 143.6 150.7	Nonazeotrope				372
1938	A $\text{C}_2\text{H}_6\text{O}$ B $\text{C}_6\text{H}_6$ C $\text{C}_6\text{H}_{12}$ D $\text{C}_6\text{H}_{14}$	Ethyl alcohol Benzene Methylcyclopentane Hexane	78.3 80.1 72.0 68.95	Nonazeotrope				304
1939	A $\text{C}_2\text{H}_6\text{O}$ B $\text{C}_6\text{H}_5\text{N}$ C $\text{C}_7\text{H}_8$ D $\text{C}_7\text{H}_{16}$	Ethyl alcohol Aniline Toluene Heptane	78.3 184.4 110.7 98.4	Nonazeotrope				v-1 138

## Formula Index

This index lists all compounds appearing in the azeotropic tables. Included are formula, name, standard boiling point, and numbers of the systems in which the compound appears as a component. The inorganic substances are indexed first.

Formula	Name and System Nos.	Formula	Name and System Nos.
A	Argon B.p., -186 1, 2, 1675	F <sub>6</sub> S	Sulfur hexafluoride 60
AsCl <sub>3</sub>	Arsenic chloride B.p., 130 3	F <sub>6</sub> W	Tungsten hexafluoride 61, 62 B.p., 19.5
B <sub>2</sub> H <sub>6</sub>	Diborane B.p., -87.5 5	HNO <sub>3</sub>	Nitric acid B.p., 86 63, 64, 1680
BeF <sub>2</sub>	Beryllium fluoride 4	H <sub>2</sub>	Hydrogen B.p., -252.7 53, 54, 1676
BrF <sub>3</sub>	Bromine trifluoride 6-9 B.p., 135	H <sub>2</sub> O	Water B.p., 100 31, 63, 65-522, 1679- 1832, 1927-1935
BrF <sub>5</sub>	Bromine pentafluoride 6, 10, 11	H <sub>2</sub> O <sub>2</sub>	Hydrogen peroxide 65 B.p., 151.4
Br <sub>2</sub>	Bromine B.p., 58.9 7, 12-20	H <sub>2</sub> S	Hydrogen sulfide B.p., -59.6 22, 523, 524
Br <sub>3</sub> P	Phosphorus tribromide 21 B.p., 175.3	H <sub>2</sub> SO <sub>4</sub>	Hydrogen sulfate 66
CO	Carbon monoxide 1676 B.p., -192	H <sub>3</sub> N	Ammonia B.p., -33.4 525-529
CO <sub>2</sub>	Carbon dioxide 22-26 B.p., -78.5	H <sub>4</sub> N <sub>2</sub>	Hydrazine B.p., 113.8 67
ClF <sub>3</sub>	Chlorine trifluoride 27-29, 1677	He	Helium B.p., -268.9 530
ClH	Hydrogen chloride B.p., -85 27, 30-32, 1678	N <sub>2</sub>	Nitrogen B.p., -195.8 1675, 1676
Cl <sub>2</sub>	Chlorine B.p., -34.6 30, 33	N <sub>2</sub> O	Nitrous oxide 23 B.p., -90.7
Cl <sub>2</sub> O <sub>2</sub> S	Sulfuryl chloride 34-37 B.p., 69.1	N <sub>2</sub> O <sub>5</sub>	Nitrogen pentoxide 68
Cl <sub>3</sub> HSi	Trichlorosilane 38	O <sub>2</sub>	Oxygen B.p., -183 1, 1675
Cl <sub>3</sub> P	Phosphorus trichloride 39-44 B.p., 76	O <sub>2</sub> S	Sulfur dioxide B.p., -10 531, 1681
Cl <sub>4</sub> Ge	Germanium chloride 3 B.p., 86.5	S	Sulfur B.p., 444.6 532
Cl <sub>4</sub> Si	Silicon tetrachloride 45, 46 B.p., 57.6	Se	Selenium B.p., 688 532
Cl <sub>4</sub> Sn	Tin chloride B.p., 114.1 47, 48	CCl <sub>2</sub> F <sub>2</sub>	Dichlorodifluoromethane B.p., -29.8 57, 533-539
Cl <sub>4</sub> Ti	Titanium tetrachloride 49-51 B.p., 146.2	CCl <sub>3</sub> F	Trichlorofluoromethane B.p., 24.9
DH	Deuterium hydride 52, 53	CCl <sub>4</sub>	540, 541
D <sub>2</sub>	Deuterium B.p., -249.7 52, 54	CS <sub>2</sub>	Carbon tetrachloride B.p., 76.8 14, 34, 47, 542-556, 1833
FH	Hydrogen fluoride B.p., 19.4 8, 10, 12, 28, 33, 55-59, 1677, 1679	CHClF <sub>2</sub>	Carbon disulfide B.p., 46.2 69, 557-561
FNa	Sodium fluoride 4	CHCl <sub>2</sub> F	Chlorodifluoromethane B.p., -40.8 58, 533, 562-567
F <sub>5</sub> Sb	Antimony pentafluoride 55 B.p., 142.7	CHCl <sub>2</sub> F	Dichlorofluoromethane B.p., 7.63/723 mm. 568
F <sub>6</sub> U	Uranium hexafluoride B.p., 56 9, 11, 13, 29, 56, 1677		

Formula	Name and System Nos.	Formula	Name and System Nos.
$\text{CHCl}_3$	Chloroform B.p., 61.2 64, 70, 569-584, 1680, 1682-1687, 1834-1846	$\text{C}_2\text{H}_2\text{Cl}_2$	<u>cis</u> -1,2-Dichloroethylene B.p., 60.3 607, 694-701
$\text{CH}_2\text{BrCl}$	Bromochloromethane 585 B.p., 69	$\text{C}_2\text{H}_2\text{Cl}_2$	<u>trans</u> -1,2-Dichloro- ethylene B.p., 48.3 608, 702-709
$\text{CH}_2\text{Cl}_2$	Dichloromethane B.p., 40.7 585, 586, 1847	$\text{C}_2\text{H}_2\text{Cl}_2\text{F}_2$	1,1-Dichloro-2,2-di- fluoroethane 18 B.p., 59/735 mm.
$\text{CH}_2\text{O}_2$	Formic acid B.p., 100.75 71, 569, 587-589, 1682, 1688, 1689, 1834	$\text{C}_2\text{H}_2\text{Cl}_2\text{F}_2$	1,2-Dichloro-1,2-di- fluoroethane B.p., 30 563
$\text{CH}_3\text{Cl}$	Chloromethane B.p., -24 534	$\text{C}_2\text{H}_2\text{Cl}_2\text{O}$	Chloroacetyl chloride 50 B.p., 105
$\text{CH}_3\text{Cl}_3\text{Si}$	Trichloromethylsilane 45, 590	$\text{C}_2\text{H}_2\text{Cl}_4$	1,1,2,2-Tetrachloroethane 36, 51 B.p., 146.2
$\text{CH}_3\text{I}$	Iodomethane B.p., 42.55 557	$\text{C}_2\text{H}_3\text{Cl}$	Vinyl chloride 710, 711 B.p., 13.4
$\text{CH}_3\text{NO}_2$	Nitromethane B.p., 101.2 72, 591-602, 1690, 1848	$\text{C}_2\text{H}_3\text{Cl}_2\text{NO}_2$	Methyl dichlorocar- bamate 77
$\text{CH}_4$	Methane B.p., -161.5 530, 603, 604, 1849	$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,1-Trichloroethane 712, 713 B.p., 74.1
$\text{CH}_4\text{Cl}_2\text{Si}$	Dichloromethylsilane 46, 605	$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,2-Trichloroethane B.p., 113.65 68, 682, 712
$\text{CH}_4\text{O}$	Methanol B.p., 64.7 32, 73, 542, 570, 591, 606-673, 1683, 1691- 1698, 1835-1837, 1847, 1849-1855	$\text{C}_2\text{H}_3\text{F}_3\text{O}$	2,2,2-Trifluoroethanol 714
$\text{CH}_4\text{S}$	Methanethiol B.p., 6.00 674, 675	$\text{C}_2\text{H}_3\text{N}$	Acetonitrile B.p., 80.1 79, 544, 572, 592, 715-726, 1684, 1703- 1706, 1857, 1927
$\text{CH}_5\text{N}$	Methylamine B.p., -6 676, 677	$\text{C}_2\text{H}_4$	Ethylene B.p., -103.7 25, 691, 727, 1856
$\text{C}_2\text{ClF}_5$	Chloropentafluoroethane 562, 678 B.p., -38.5	$\text{C}_2\text{H}_4\text{Br}_2$	1,2-Dibromoethane 728, 729 B.p., 131.5
$\text{C}_2\text{Cl}_2\text{F}_4$	1,2-Dichlorotetrafluoro- ethane B.p., 2.22/723 mm. 568, 606, 679	$\text{C}_2\text{H}_4\text{Cl}_2$	1,1-Dichloroethane 558, 713 B.p., 57.2 1,2-Dichloroethane B.p., 83.16
$\text{C}_2\text{Cl}_3\text{F}_3$	1,1,2-Trichlorotrifluoro- ethane B.p., 47.6 15, 74, 680, 681, 1691, 1699	$\text{C}_2\text{H}_4\text{F}_2$	1,1-Difluoroethane 535, 678 B.p., -24.7
$\text{C}_2\text{Cl}_4$	Tetrachloroethylene B.p., 121 75, 571, 682-685	$\text{C}_2\text{H}_4\text{O}$	Acetaldehyde B.p., 20.2 540, 610, 736-742, 1681, 1709, 1710
$\text{C}_2\text{Cl}_4\text{F}_2$	1,1,1,2-Tetrachlorodi- fluoroethane B.p., 91.6 16	$\text{C}_2\text{H}_4\text{O}$	Ethylene oxide 743 B.p., 10.5
$\text{C}_2\text{Cl}_4\text{F}_2$	1,1,2,2-Tetrachlorodi- fluoroethane B.p., 92.4 680	$\text{C}_2\text{H}_4\text{O}_2$	Acetic acid B.p., 118.1 81, 546, 573, 587, 611, 687, 744-768, 1685, 1688, 1834, 1859- 1873, 1936, 1937
$\text{C}_2\text{Cl}_4\text{O}$	Trichloroacetyl chloride 49 B.p., 118	$\text{C}_2\text{H}_4\text{O}_2$	Methyl formate B.p., 32 541
$\text{C}_2\text{Cl}_6$	Hexachloroethane 35 B.p., 184.8	$\text{C}_2\text{H}_5\text{BrO}$	2-Bromoethanol B.p., 100/150 mm. 82
$\text{C}_2\text{HCl}_3$	Trichloroethylene B.p., 86.2 543, 686-690, 1700-1702, 1833	$\text{C}_2\text{H}_5\text{Cl}$	Chloroethane B.p., 12.4 736, 769
$\text{C}_2\text{HCl}_3\text{F}_2$	1,2,2-Trichloro-1,1-di- fluoroethane B.p., 71.1/736 mm. 17	$\text{C}_2\text{H}_5\text{ClO}$	2-Chloroethanol B.p., 128.7 83, 770-772, 1711
$\text{C}_2\text{HF}_3\text{O}_2$	Trifluoroacetic acid 59, 76	$\text{C}_2\text{H}_5\text{NO}$	Acetamide B.p., 222 773
$\text{C}_2\text{H}_2$	Acetylene B.p., -84 24, 691-693, 1856		

Formula	Name and System Nos.	Formula	Name and System Nos.
$C_2H_5NO_2$	Nitroethane B.p., 114.0 84, 774-780, 1874	$C_3H_4$	Propyne B.p., -23.2 693, 924, 928-930, 1884-1886
$C_2H_6$	Ethane B.p., -88.6 26, 523, 603, 692, 727, 781, 1849, 1856	$C_3H_4Cl_4$	Tetrachloropropane 931
$C_2H_6O$	Ethyl alcohol B.p., 78.3 85, 547, 574, 593, 612, 681, 694, 702, 714, 744, 774, 782-866, 1686, 1692, 1699, 1703, 1707, 1709, 1712-1738, 1838, 1850, 1857, 1875-1882, 1927-1933, 1938, 1939	$C_3H_4O$	Acrolein B.p., 52.8 93
$C_2H_6O$	Methyl ether B.p., -23.7 531, 536, 612	$C_3H_4O$	2-Propyn-1-ol B.p., 115 94, 932, 1742, 1743
$C_2H_6OS$	Dimethylsulfoxide 867	$C_3H_4O_2$	Acrylic acid B.p., 141.2 95, 933, 1744
$C_2H_6O_2$	Ethylene glycol B.p., 197 86, 868-893, 1883	$C_3H_4O_3$	Ethylene carbonate 96, 868
$C_2H_6S$	Methyl sulfide B.p., 37.32 894-899	$C_3H_5Cl$	3-Chloropropene 97, 934 B.p., 45.15
$C_2H_6S_2$	Methyl disulfide 900-907 B.p., 109.44	$C_3H_5Cl$	$\underline{x}$ -Methylvinyl chloride 98
$C_2H_7N$	Dimethylamine B.p., 7.4 908, 1739	$C_3H_5ClO$	2-Chloro-2-propen-1-ol 935
$C_2H_7N$	Ethylamine B.p., 16.6 525, 909, 910	$C_3H_5ClO$	Epichlorohydrin 936 B.p., 116.45
$C_2H_7NO$	2-Aminoethanol B.p., 170.5 87, 911, 912	$C_3H_5Cl_3$	1,2,3-Trichloropropane 936 B.p., 156.85
$C_2H_8N_2$	1,1-Dimethylhydrazine 88	$C_3H_5F$	2-Fluoropropene 527 B.p., -23
$C_2H_8N_2$	Ethylenediamine B.p., 116 89, 913, 917, 1740	$C_3H_5N$	Propionitrile B.p., 97.4 923, 1741
$C_3Cl_3F_5$	1,2,2-Trichloropenta- fluoropropane B.p., 72.5 19	$C_3H_5NO$	Hydracrylonitrile 99 B.p., 229.7
$C_3F_6$	Hexafluoropropene B.p., -6.1/2059 mm. 537, 564	$C_3H_6$	Propene B.p., -48 925, 928, 937, 1884
$C_3F_8$	Perfluoropropane B.p., 12.5/6.064 atm. 565	$C_3H_6Cl_2$	1,2-Dichloropropane B.p., 96.3 688, 730, 938, 939, 1745
$C_3HF_5O_2$	Pentafluoropropionic acid 90, 918	$C_3H_6Cl_2O$	2,3-Dichloro-1-propanol 100 B.p., 183.8
$C_3HF_7$	Heptafluoropropane B.p., 17/2328 mm. 538	$C_3H_6O$	Acetone B.p., 56.1 101, 548, 575, 594, 615, 683, 695, 703, 711, 717, 782, 911, 940-957, 1713, 1746- 1752, 1835, 1838- 1842, 1850, 1851, 1852, 1858, 1887-1890
$C_3H_2ClF_3O_2$	3-Chloro-2,2,3-trifluoro- propionic acid 919	$C_3H_6O$	Allyl alcohol B.p., 96.90 102, 549, 958-963, 1700, 1753-1755, 1891
$C_3H_2F_4O_2$	2,2,3,3-Tetrafluoropro- pionic acid 920	$C_3H_6O$	Propionaldehyde B.p., 47.9 103, 964, 965, 1693
$C_3H_3ClF_3NO$	3-Chloro-2,2,3-trifluoro- propionamide 921	$C_3H_6O$	Propylene oxide B.p., 38 104, 737, 938, 964, 966
$C_3H_3F_4NO$	2,2,3,3-Tetrafluoropro- pionamide 922	$C_3H_6O_2$	1,3-Dioxolane B.p., 75.6 105, 967-970
$C_3H_3N$	Acrylonitrile B.p., 77.2 91, 614, 716, 923, 1712, 1741	$C_3H_6O_2$	Ethyl formate B.p., 54.0 106, 577, 696, 704, 971, 1714, 1843
$C_3H_3NS$	Thiazole B.p., 116.8 92	$C_3H_6O_2$	Methoxyacetaldehyde B.p., 92/770 mm. 107
$C_3H_4$	Propadiene B.p., -32 526, 924-927, 1884- 1886	$C_3H_6O_2$	Methyl acetate B.p., 57.2 108, 576, 616, 697, 705, 972-1001, 1694, 1836, 1844, 1851, 1853, 1887

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	Propionic acid B.p., 140.7 745, 1002-1010, 1756, 1892	C <sub>3</sub> H <sub>9</sub> ClSi	Chlorotrimethylsilane 590, 605
C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	Methyl glycolate 1011, 1012 B.p., 151.2	C <sub>3</sub> H <sub>9</sub> N	Isopropylamine 1115 B.p., 32.4
C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	S-Trioxane B.p., 114.5 1013	C <sub>3</sub> H <sub>9</sub> N	Propylamine B.p., 48.5 119
C <sub>3</sub> H <sub>7</sub> Br	2-Bromopropane B.p., 59.35 578, 971, 972, 1843-1845	C <sub>3</sub> H <sub>9</sub> N	Trimethylamine 120 B.p., 3.2
C <sub>3</sub> H <sub>7</sub> Cl	1-Chloropropane 109, 559 B.p., 46.6	C <sub>3</sub> H <sub>9</sub> NO	1-Amino-2-propanol B.p., 159.9 121, 1116-1119
C <sub>3</sub> H <sub>7</sub> Cl	2-Chloropropane 110, 934 B.p., 34.9	C <sub>3</sub> H <sub>10</sub> N <sub>2</sub>	1,2-Propanediamine 1120-1122 B.p., 120.9
C <sub>3</sub> H <sub>7</sub> ClO	Propylene chlorhydrin B.p., 73/100 mm. 1014, 1745	C <sub>4</sub> Cl <sub>3</sub> F <sub>7</sub>	2,2,3-Trichlorohepta- fluorobutane B.p., 97.4 1123-1125
C <sub>3</sub> H <sub>7</sub> NO	N,N-Dimethylformamide B.p., 153.0 111, 588, 718, 919-922, 1015	C <sub>4</sub> F <sub>8</sub>	Perfluorocyclobutane 539, 567
C <sub>3</sub> H <sub>7</sub> NO	Propionamide B.p., 222.1 1016-1018	C <sub>4</sub> HF <sub>7</sub> O <sub>2</sub>	Perfluorobutyric acid B.p., 122.0 122, 1126-1128, 1679
C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	1-Nitropropane B.p., 131.6 112, 617, 783, 1019-1024	C <sub>4</sub> H <sub>2</sub> O <sub>3</sub>	Maleic anhydride 1129, 1130
C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	2-Nitropropane B.p., 120.3 113, 618, 784, 1025-1030	C <sub>4</sub> H <sub>4</sub>	Vinylacetylene 1131
C <sub>3</sub> H <sub>8</sub>	Propane B.p., -42.1 524, 566, 604, 926, 929, 937, 1849, 1885	C <sub>4</sub> H <sub>4</sub> O <sub>2</sub>	Diketene 941, 1132
C <sub>3</sub> H <sub>8</sub> O	Isopropyl alcohol B.p., 82.5 115, 595, 684, 731, 775, 785, 940, 958, 1019, 1025, 1031-1059, 1690, 1695, 1702, 1708, 1746, 1757-1766, 1846, 1888, 1893-1895, 1934	C <sub>4</sub> H <sub>4</sub> S	Thiophene B.p., 83.97 1133-1142
C <sub>3</sub> H <sub>8</sub> O	Propyl alcohol B.p., 97.25 114, 550, 596, 746, 776, 1020, 1026, 1060-1072, 1701, 1767-1774, 1896	C <sub>4</sub> H <sub>5</sub> Cl	2-Chloro-1,3-butadiene 1131, 1143, 1144
C <sub>3</sub> H <sub>8</sub> OS	2-(Methylthio)ethanol 1073	C <sub>4</sub> H <sub>5</sub> N	3-Butenenitrile 123 B.p., 118.9
C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2-Methoxyethanol B.p., 124.5 116, 619, 1074-1094, 1775-1777, 1897, 1898	C <sub>4</sub> H <sub>6</sub>	Methacrylonitrile 124
C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	Methylol B.p., 42.6 698, 706	C <sub>4</sub> H <sub>6</sub> ClN	1,3-Butadiene B.p., -4.5 676, 927, 930, 1886
C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	1,2-Propanediol B.p., 188 117, 939, 1095- 1106, 1778	C <sub>4</sub> H <sub>6</sub> Cl <sub>2</sub>	2-Chloro-2-methylpro- pionitrile B.p., 116 125
C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	1,3-Propanediol B.p., 214 118, 1107	C <sub>4</sub> H <sub>6</sub> O	1,3-Dichloro-2-butene 1143
C <sub>3</sub> H <sub>8</sub> S	Ethyl methyl sulfide 1108-1113 B.p., 66.61	Crotonaldehyde	B.p., 101.5 126, 1715, 1779, 1928
C <sub>3</sub> H <sub>8</sub> S	1-Propanethiol B.p., 67 1060, 1767	C <sub>4</sub> H <sub>6</sub> O	Methacrylaldehyde 127 B.p., 68.0
C <sub>3</sub> H <sub>9</sub> BO <sub>3</sub>	Trimethyl borate B.p., 68.7 620, 1114, 1854	C <sub>4</sub> H <sub>6</sub> O	3-Butene-2-one 1144
		C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	2,3-Butanedione 1145 B.p., 90.7
		C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	3-Butenoic acid 128
		C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Butyrolactone 131 B.p., 204.3
		C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Crotonic acid B.p., 185 129, 130
		C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Methyl acrylate 1696 B.p., 80.9
		C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	Vinyl acetate B.p., 72.7 132, 621, 738, 942, 1031, 1146-1149, 1747
		C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	Acetic anhydride B.p., 138 747, 1002, 1150-1152
		C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	Propylene carbonate 133 B.p., 242.1

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>4</sub> H <sub>7</sub> Cl	1-Chloro-2-methylpropene 943 B.p., 68	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Methyl propionate B.p., 79.7 151, 626, 1034, 1697, 1756
C <sub>4</sub> H <sub>7</sub> ClO	2-Chloroethyl vinyl ether B.p., 109.1 134, 770, 1153	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Propyl formate B.p., 80.9 1195
C <sub>4</sub> H <sub>7</sub> N	Butyronitrile B.p., 117.6 135	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	2-Vinylxyethanol 152, 870 B.p., 143
C <sub>4</sub> H <sub>7</sub> NO	2-Hydroxyisobutyronitrile 136	C <sub>4</sub> H <sub>8</sub> O <sub>3</sub>	Ethylene glycol mono- acetate 871
C <sub>4</sub> H <sub>8</sub>	1-Butene B.p., -6 677	C <sub>4</sub> H <sub>8</sub> S	Tetrahydrothiophene 1196-1202 B.p., 120.79
C <sub>4</sub> H <sub>8</sub>	2-Methylpropene B.p., -6 674	C <sub>4</sub> H <sub>9</sub> Cl	1-Chlorobutane B.p., 77.9 1203
C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub> O	Bis(2-chloroethyl) ether B.p., 178.6 137, 732, 771, 869, 1154-1156	C <sub>4</sub> H <sub>9</sub> Cl <sub>3</sub> Sn	Butyltin trichloride B.p., 113/17 mm. 1204, 1902
C <sub>4</sub> H <sub>8</sub> O	2-Butanone B.p., 79.6 138, 551, 579, 622, 689, 699, 707, 786, 944, 1145, 1157-1169, 1687, 1716, 1748, 1757, 1780- 1782, 1833, 1837, 1839, 1846, 1899	C <sub>4</sub> H <sub>9</sub> NO	N,N-Dimethylacetamide 750 B.p., 165
C <sub>4</sub> H <sub>8</sub> O	Butyraldehyde B.p., 75.7 139, 623, 787, 1170- 1176, 1717, 1749, 1783-1786	C <sub>4</sub> H <sub>9</sub> NO	Morpholine B.p., 128.3 153, 1206, 1207
C <sub>4</sub> H <sub>8</sub> O	Ethyl vinyl ether B.p., 35.5 140, 739, 788, 1718	C <sub>4</sub> H <sub>9</sub> NO <sub>2</sub>	N-(2-Hydroxyethyl) acetamide 154
C <sub>4</sub> H <sub>8</sub> O	Isobutyraldehyde 141, 1170 B.p., 63.5	C <sub>4</sub> H <sub>9</sub> NO <sub>3</sub>	2-Methyl-2-nitro-1- propanol 1208
C <sub>4</sub> H <sub>8</sub> O	Methyl propenyl ether 142 B.p., 46.3	C <sub>4</sub> H <sub>10</sub>	Butane B.p., -0.5 528, 679, 740, 743, 769
C <sub>4</sub> H <sub>8</sub> O	Tetrahydrofuran B.p., 66.1 624, 700, 708, 1114, 1854	C <sub>4</sub> H <sub>10</sub>	2-Methylpropane 675, 1698 B.p., -11.70
C <sub>4</sub> H <sub>8</sub> OS	2-(Methylthio)propional- dehyde 143	C <sub>4</sub> H <sub>10</sub> O	Butyl alcohol B.p., 117.75 155, 553, 597, 627, 685, 751, 777, 791, 914, 1021, 1027, 1120, 1146, 1180, 1203, 1209-1231, 1787-1799, 1904-1907, 1935
C <sub>4</sub> H <sub>8</sub> OS	1,4-Oxathiane B.p., 149.2 144	C <sub>4</sub> H <sub>10</sub> O	sec-Butyl alcohol B.p., 99.5 156, 598, 778, 792, 1022, 1028, 1159, 1209, 1232-1237, 1787, 1800- 1807
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Butyric acid B.p., 162.45 1171, 1177-1179, 1900	C <sub>4</sub> H <sub>10</sub> O	tert-Butyl alcohol B.p., 82.41 599, 779, 1023, 1029, 1800
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	p-Dioxane B.p., 101 145, 748, 772, 789, 913, 1032, 1180-1184, 1874	C <sub>4</sub> H <sub>10</sub> O	Ethyl ether B.p., 34.5 5, 157, 561, 581, 741, 966, 1036, 1211, 1239
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethoxyacetaldehyde 146 B.p., 105	C <sub>4</sub> H <sub>10</sub> O	Isobutyl alcohol B.p., 107 158, 600, 780, 915, 1024, 1030, 1121, 1172, 1181, 1185, 1210, 1238, 1783, 1808, 1874, 1903
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acetate B.p., 77.05 552, 560, 625, 690, 749, 790, 1033, 1061, 1185- 1191, 1893, 1901, 1928	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	1,4-Butanediol B.p., 230 1241
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	2-Hydroxybutyraldehyde 147	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	1,1-Dimethoxyethane 1173, 1784 B.p., 64.5
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Isobutyric acid B.p., 154.5 148, 1192-1194	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	1,2-Dimethoxyethane 159, 1240 B.p., 85.2
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	Isopropyl formate B.p., 68.8 580, 1157, 1845		
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	3-Methoxypropionaldehyde 149		
C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	2-Methyl-1,3-dioxolane 150 B.p., 82.5		

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	2-Ethoxyethanol B.p., 134.0 160, 793, 1186, 1242-1277, 1809, 1810, 1908, 1909	C <sub>5</sub> H <sub>7</sub> ClO	2-Chloroallyl vinyl ether 935
C <sub>4</sub> H <sub>10</sub> O <sub>3</sub>	Diethylene glycol B.p., 245.5 161, 1154, 1278-1298	C <sub>5</sub> H <sub>7</sub> N	3-Methyl-3-butenenitrile 170 B.p., 137
C <sub>4</sub> H <sub>10</sub> S	1-Butanethiol B.p., 98/770 mm. 1212, 1788	C <sub>5</sub> H <sub>8</sub>	Cyclopentene B.p., 44.4 974
C <sub>4</sub> H <sub>10</sub> S	2-Butanethiol B.p., 85.15 1133, 1299	C <sub>5</sub> H <sub>8</sub>	Isoprene B.p., 34.3 629, 1361-1365
C <sub>4</sub> H <sub>10</sub> S	Ethyl sulfide B.p., 92.07 1300-1308	C <sub>5</sub> H <sub>8</sub>	3-Methyl-1,2-butadiene 630 B.p., 40.8
C <sub>4</sub> H <sub>10</sub> S	Isopropyl methyl sulfide B.p., 84.76 1134, 1299, 1309-1316	C <sub>5</sub> H <sub>8</sub>	cis-1,3-Pentadiene 631 B.p., 44
C <sub>4</sub> H <sub>10</sub> S	Methyl propyl sulfide 1317-1324 B.p., 95.47	C <sub>5</sub> H <sub>8</sub>	trans-1,3-Pentadiene 632 B.p., 42.0
C <sub>4</sub> H <sub>10</sub> S <sub>2</sub>	Ethyl disulfide B.p., 154.11 1325, 1326	C <sub>5</sub> H <sub>8</sub> Cl <sub>4</sub>	Tetrachloropentane 931, 1366
C <sub>4</sub> H <sub>11</sub> N	Butylamine B.p., 77.8 162, 794, 1037, 1213, 1719, 1758, 1789, 1811, 1904	C <sub>5</sub> H <sub>8</sub> O	Allyl vinyl ether 171, 959 B.p., 67.4
C <sub>4</sub> H <sub>11</sub> N	Diethylamine B.p., 55.5 163, 628, 795, 909, 1327, 1328, 1704, 1812	C <sub>5</sub> H <sub>8</sub> O	Cyclopentanone B.p., 130 172, 1367-1369
C <sub>4</sub> H <sub>11</sub> NO	2-Dimethylaminoethanol B.p., 134.6 164, 908, 1739	C <sub>5</sub> H <sub>8</sub> O	1-Methoxy-1,3-butadiene 173, 633 B.p., 90.7
C <sub>4</sub> H <sub>11</sub> NO <sub>2</sub>	2,2'-Iminodiethanol 165, 910, 912, 1329	C <sub>5</sub> H <sub>8</sub> O	3-Penten-2-one 174 B.p., 123.5
C <sub>5</sub> Cl <sub>2</sub> F <sub>6</sub>	1,2-Dichlorohexafluoro- cyclopentene B.p., 90.6 1123, 1330	C <sub>5</sub> H <sub>8</sub> O	3-Methyl-3-buten-2-one 175 B.p., 97.9
C <sub>5</sub> F <sub>10</sub>	Perfluorocyclopentane B.p., 25/833 mm. 61, 1331, 1332	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	4-Pentenal B.p., 106 176
C <sub>5</sub> F <sub>12</sub>	Perfluoropentane B.p., 40.86/1140 mm. 2, 60, 62, 1331	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Allyl acetate B.p., 104.1 177, 960
C <sub>5</sub> H <sub>4</sub> F <sub>8</sub> O	2,2,3,4,4,5-Octafluoro- 1-pentanol 1333, 1334	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	3,3-Dimethoxypropane 1742 B.p., 111
C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	2-Furaldehyde B.p., 162 166, 554, 1187, 1335-1339, 1910-1913	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Ethyl acrylate B.p., 99.5 178, 796, 933, 1370, 1720, 1744, 1819
C <sub>5</sub> H <sub>5</sub> N	Pyridine B.p., 115.5 167, 589, 752, 1003, 1177, 1214, 1340-1349, 1678, 1689, 1813-1818, 1859-1865, 1892, 1900, 1905, 1914, 1915, 1936, 1937	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Isopropenyl acetate B.p., 97.4 179, 945, 1150, 1373
C <sub>5</sub> H <sub>6</sub> N <sub>2</sub>	2-Methylpyrazine 168 B.p., 133/737 mm.	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Methyl methacrylate B.p., 100.8 180, 1215, 1242, 1371, 1372
C <sub>5</sub> H <sub>6</sub> O	2-Methylfuran B.p., 63 169, 965, 973, 1160	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	2,4-Pentanedione (acetyl acetone) B.p., 140.6 181, 1373
C <sub>5</sub> H <sub>6</sub> O <sub>2</sub>	Furfuryl alcohol 1335	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Δ-Valerolactone 182
C <sub>5</sub> H <sub>6</sub> S	2-Methylthiophene B.p., 111.92 900, 1350-1353	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	Vinyl propionate 183 B.p., 95.0
C <sub>5</sub> H <sub>6</sub> S	3-Methylthiophene 1354-1360 B.p., 114.96	C <sub>5</sub> H <sub>8</sub> O <sub>3</sub>	Methyl acetoacetate 1192 B.p., 171.7
		C <sub>5</sub> H <sub>10</sub>	Cyclopentane B.p., 49.35 894, 975, 1374, 1375
		C <sub>5</sub> H <sub>10</sub>	2-Methyl-1-butene B.p., 31.10 635, 797, 896, 1362
		C <sub>5</sub> H <sub>10</sub>	3-Methyl-1-butene B.p., 21.2 634, 1361, 1376
		C <sub>5</sub> H <sub>10</sub>	2-Methyl-2-butene B.p., 38.60 636, 895, 1363, 1377
		C <sub>5</sub> H <sub>10</sub>	1-Pentene B.p., 29.92 637, 946, 976
		C <sub>5</sub> H <sub>10</sub>	cis-2-Pentene B.p., 37.1 638
		C <sub>5</sub> H <sub>10</sub> Cl <sub>2</sub> O <sub>2</sub>	Bis(2-chloroethoxy) methane B.p., 218.1 184

Formula	Name and System Nos.	Formula	Name and System Nos.
$C_5H_{10}N_2$	3-Dimethylaminopropionitrile B.p., 174.5 185	$C_5H_{12}N_2$	1-Methylpiperazine 206 B.p., 138.0
$C_5H_{10}O$	<i>cis</i> -1-Butenyl methyl ether B.p., 72.0 186, 1721	$C_5H_{12}O$	Active amyl alcohol B.p., 128.5 1333, 1367, 1398-1411
$C_5H_{10}O$	<i>trans</i> -1-Butenyl methyl ether B.p., 76.7 187	$C_5H_{12}O$	Amyl alcohol B.p., 137.9 643, 801, 1392- 1397, 1821
$C_5H_{10}O$	Ethyl isopropenyl ether 188 B.p., 61.9	$C_5H_{12}O$	Butyl methyl ether 802, 1724 B.p., 70.3
$C_5H_{10}O$	Isopropyl vinyl ether B.p., 55.7 189, 798, 1038	$C_5H_{12}O$	Isoamyl alcohol B.p., 131.85 1153, 1334, 1368, 1398, 1412-1426, 1725, 1822, 1914
$C_5H_{10}O$	3-Methyl-2-butanone 1378, 1379 B.p., 95.4	$C_5H_{12}O$	2-Methyl-1-butanol B.p., 128.9 1369, 1427, 1428
$C_5H_{10}O$	2-Pentanone B.p., 102.2 639, 799, 1039, 1380, 1820	$C_5H_{12}O$	2-Methyl-2-butanol 1429, 1430 B.p., 101.7
$C_5H_{10}O$	3-Pentanone B.p., 102 1062, 1381-1384, 1768	$C_5H_{12}O$	3-Pentanol B.p., 115.6 1341
$C_5H_{10}O$	Propyl vinyl ether B.p., 65.1 190, 800, 1722	$C_5H_{12}O_2$	1,2-Dimethoxypropane 207 B.p., 92
$C_5H_{10}O$	Tetrahydropyran B.p., 88 191	$C_5H_{12}O_2$	2,2-Dimethoxypropane 644, 803 B.p., 80
$C_5H_{10}O$	Valeraldehyde B.p., 103.3 192, 193	$C_5H_{12}O_2$	1-Ethoxy-2-propanol 208 B.p., 132.2
$C_5H_{10}OS$	2-Methylthioethyl vinyl ether 1073	$C_5H_{12}O_2$	3-Methoxy-1-butanol 209 B.p., 161.1
$C_5H_{10}O_2$	Ethyl propionate 194 B.p., 99.1	$C_5H_{12}O_2$	1,5-Pentanediol 210 B.p., 242.5
$C_5H_{10}O_2$	Isopropyl acetate B.p., 88.7 640, 753, 947, 1151, 1385, 1723, 1750, 1759, 1888, 1894	$C_5H_{12}O_2$	2-Propoxyethanol 211 B.p., 151.5
$C_5H_{10}O_2$	3-Methoxybutyraldehyde 195 B.p., 131	$C_5H_{12}O_3$	2-(2-Methoxyethoxy) ethanol B.p., 194.2 872, 1278, 1431-1454
$C_5H_{10}O_2$	Propyl acetate B.p., 101.6 196, 1063, 1243, 1769	$C_5H_{12}S$	Ethyl isopropyl sulfide 901 B.p., 107.22
$C_5H_{10}O_2$	Valeric acid B.p., 187 197, 198, 1386	$C_5H_{13}N$	3-Methyl-1-butaneli 1412, 1822 B.p., 116
$C_5H_{10}O_2$	3-Vinylxyloxy-1-propanol 200, 1095, 1107	$C_5H_{13}NO$	$N$ -Methylbutylamine 212 B.p., 91.1
$C_5H_{10}O_2$	1-Vinylxyloxy-2-propanol 199	$C_5H_{14}N_2$	1-Ethylamino-2-propanol 213 B.p., 159.4
$C_5H_{10}O_3$	3-Ethoxypropionic acid 201 B.p., 219.2	$C_6F_{12}O$	$N,N$ -Dimethyl-1,3-propanediamine B.p., 1349 214
$C_5H_{10}O_3$	3-Methoxybutyric acid 202	$C_6F_{14}$	Perfluorocyclic ether 1455
$C_5H_{10}O_3$	Methoxymethyl propionate 203	$C_6F_{14}$	Perfluorohexane 918, 1332, 1455, 1456, 1457
$C_5H_{11}N$	Piperidine B.p., 106 1340	$C_6H_3Cl_3$	1,2,4-Trichlorobenzene 1458 B.p., 213
$C_5H_{11}NO$	$N,N$ -Dimethylpropionamide B.p., 175.5 1004	$C_6H_4Cl_2$	$\sigma$ -Dichlorobenzene 1459, 1460 B.p., 179
$C_5H_{11}NO$	4-Methylmorpholine 204 B.p., 115.6	$C_6H_5Br$	Bromobenzene B.p., 156.1 1461
$C_5H_{12}$	2-Methylbutane B.p., 27.90 641, 897, 1364, 1376	$C_6H_5Cl$	Chlorobenzene B.p., 131 1064, 1116, 1399, 1413, 1462, 1463, 1889
$C_5H_{12}$	Pentane B.p., 36.15 205, 642, 719, 754, 898, 948, 977, 1365, 1377, 1387-1391	$C_6H_5F$	Fluorobenzene B.p., 84.9 1464
		$C_6H_5FO$	$\sigma$ -Fluorophenol 1400, 1414
		$C_6H_5NO_2$	Nitrobenzene 1465 B.p., 210.85

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>6</sub> H <sub>6</sub>	Benzene 38, 555, 601, 645, 720, 733, 804, 867, 916, 932, 949, 978, 1015, 1040, 1065, 1074, 1096, 1135, 1161, 1182, 1188, 1216, 1238, 1279, 1300, 1336, 1374, 1387, 1392, 1429, 1464, 1466-1479, 1711, 1740, 1743, 1760, 1770, 1775, 1780, 1801, 1820, 1823, 1848, 1855, 1858, 1875-1879, 1889, 1890, 1895-1897, 1899, 1901, 1903, 1906, 1910, 1916, 1917, 1929-1933, 1938	C <sub>6</sub> H <sub>10</sub> O	2-Ethylcrotonaldehyde 226, 1779 B.p., 135.3
C <sub>6</sub> H <sub>6</sub> O	Phenol B.p., 182 1162, 1480-1488, 1918, 1919	C <sub>6</sub> H <sub>10</sub> O	2-Hexenal B.p., 149 227
C <sub>6</sub> H <sub>6</sub> O <sub>2</sub>	Pyrocatechol B.p., 245.9 1489	C <sub>6</sub> H <sub>10</sub> O	Mesityl oxide B.p., 129.5 1044, 1174, 1402, 1416, 1507-1511
C <sub>6</sub> H <sub>7</sub> N	Aniline B.p., 184.35 215, 805, 873, 1490-1498, 1880, 1881, 1920-1922, 1939	C <sub>6</sub> H <sub>10</sub> O	2-Methylcyclopentanone 1393 B.p., 138.8
C <sub>6</sub> H <sub>7</sub> N	2-Picoline B.p., 134 721, 755, 1401, 1415, 1499-1501, 1824, 1966-1869	C <sub>6</sub> H <sub>10</sub> O	2-Methyl-2-pentenal 229 B.p., 138.7
C <sub>6</sub> H <sub>7</sub> N	3-Picoline B.p., 144.1 216, 1502	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	5-Penten-2-one 228 B.p., 128.9
C <sub>6</sub> H <sub>7</sub> N	4-Picoline B.p., 144.3 217	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	Ethyl crotonate 230 B.p., 137.8
C <sub>6</sub> H <sub>8</sub>	1,3-Cyclohexadiene 979 B.p., 80.25	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	Vinyl butyrate 231 B.p., 116.7
C <sub>6</sub> H <sub>8</sub> ClN	Aniline hydrochloride 1503	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	Vinyl isobutyrate 232 B.p., 105.4
C <sub>6</sub> H <sub>8</sub> N <sub>2</sub>	2-Amino-3-methylpyridine 1504, 1505 B.p., 221	C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	Ethylene diacetate B.p., 186 233, 1481, 1919
C <sub>6</sub> H <sub>8</sub> N <sub>2</sub>	2,5-Dimethylpyrazine B.p., 154/742 mm. 218	C <sub>6</sub> H <sub>11</sub> N	Diallylamine B.p., 110.5 234
C <sub>6</sub> H <sub>8</sub> O	2,5-Dimethylfuran B.p., 93.3 219, 646, 1163, 1385	C <sub>6</sub> H <sub>11</sub> NO	6-Caprolactam 235
C <sub>6</sub> H <sub>8</sub> O	2,4-Hexadienal B.p., 171 220	C <sub>6</sub> H <sub>11</sub> NO <sub>3</sub>	2-Methyl-2-nitropropyl vinyl ether 236, 1208
C <sub>6</sub> H <sub>8</sub> O <sub>2</sub>	1,3-Butadienyl acetate 221 B.p., 138.5	C <sub>6</sub> H <sub>12</sub>	Cyclohexane B.p., 80.6 39, 237, 602, 650, 734, 810, 950, 961, 981, 1013, 1045, 1066, 1075, 1108, 1136, 1147, 1164, 1189, 1217, 1301, 1309, 1337, 1378, 1380, 1388, 1465, 1466, 1512-1519, 1726, 1771, 1776, 1781, 1848, 1855, 1876, 1890, 1893, 1895-1897, 1899, 1901, 1903, 1906, 1910, 1916, 1929
C <sub>6</sub> H <sub>8</sub> O <sub>2</sub>	Vinyl crotonate 222 B.p., 133.9	C <sub>6</sub> H <sub>12</sub>	2,3-Dimethyl-1-butene 982 B.p., 55.62
C <sub>6</sub> H <sub>9</sub> N <sub>3</sub>	3,3'-Iminodipropionitrile 223	C <sub>6</sub> H <sub>12</sub>	2,3-Dimethyl-2-butene 983 B.p., 73.38
C <sub>6</sub> H <sub>10</sub>	Cyclohexene B.p., 83.1 980	C <sub>6</sub> H <sub>12</sub>	3,3-Dimethyl-1-butene 984 B.p., 41.4
C <sub>6</sub> H <sub>10</sub>	2-Ethyl-1,3-butadiene 224 B.p., 66.9	C <sub>6</sub> H <sub>12</sub>	2-Ethyl-1-butene 811, 985 B.p., 64.95
C <sub>6</sub> H <sub>10</sub>	1,3-Hexadiene B.p., 72.9 647, 806, 1041	C <sub>6</sub> H <sub>12</sub>	1-Hexene B.p., 63.49 812, 986, 1109
C <sub>6</sub> H <sub>10</sub>	2,4-Hexadiene B.p., 82 648, 807, 1042	C <sub>6</sub> H <sub>12</sub>	cis-2-Hexene B.p., 68.8 813, 987
C <sub>6</sub> H <sub>10</sub>	3-Methylcyclopentene 808 B.p., 64.9	C <sub>6</sub> H <sub>12</sub>	cis-3-Hexene B.p., 66.4 651, 814
C <sub>6</sub> H <sub>10</sub>	3-Methyl-1,3-pentadiene B.p., 77 649, 809, 1043	C <sub>6</sub> H <sub>12</sub>	Methylcyclopentane B.p., 71.8 815, 951, 991, 1110, 1137, 1310, 1389, 1467, 1520, 1521, 1875, 1938
C <sub>6</sub> H <sub>10</sub> O	Cyclohexanone B.p., 155.6 225, 1480, 1506, 1825, 1918	C <sub>6</sub> H <sub>12</sub>	cis-3-Methyl-2-pentene 816, 988 B.p., 70.52
		C <sub>6</sub> H <sub>12</sub>	trans-3-Methyl-2-pentene 817 B.p., 67.6
		C <sub>6</sub> H <sub>12</sub>	4-Methyl-1-pentene 989 B.p., 54.0
		C <sub>6</sub> H <sub>12</sub>	4-Methyl-2-pentene 238, 818 B.p., 56.7

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>6</sub> H <sub>12</sub>	<u>trans</u> -4-Methyl-2-pentene 990 B.p., 58.4	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	2-Ethoxyethyl acetate B.p., 156.2 255, 1534, 1829
C <sub>6</sub> H <sub>12</sub>	1,1,2-Trimethylcyclopropane 952 B.p., 52.6	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	Methyl 3-ethoxypropionate 256
C <sub>6</sub> H <sub>12</sub> Cl <sub>2</sub> O	Bis(chloroisopropyl)ether 239, 1014 B.p., 187.0	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	Paraldehyde B.p., 124 821, 1499, 1535, 1536, 1710, 1824
C <sub>6</sub> H <sub>12</sub> Cl <sub>2</sub> O <sub>2</sub>	1,2-Bis(2-chloroethoxy)ethane 240 B.p., 240.9	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	2-(2-Vinyloxyethoxy)-ethanol 257, 1280
C <sub>6</sub> H <sub>12</sub> O	Butyl vinyl ether B.p., 94.2 241, 652, 819, 1218, 1790	C <sub>6</sub> H <sub>13</sub> Cl	1-Chlorohexane 258 B.p., 134.5
C <sub>6</sub> H <sub>12</sub> O	Cyclohexanol B.p., 160.55 242, 1461, 1482, 1490, 1506, 1512, 1522, 1523, 1825, 1918, 1920	C <sub>6</sub> H <sub>13</sub> N	Cyclohexylamine B.p., 124.5 259, 1491, 1514, 1920
C <sub>6</sub> H <sub>12</sub> O	2-Ethylbutyraldehyde 243 B.p., 116.7	C <sub>6</sub> H <sub>13</sub> N	Hexamethyleneimine 260 B.p., 138
C <sub>6</sub> H <sub>12</sub> O	2-Hexanone B.p., 127.2 1772	C <sub>6</sub> H <sub>13</sub> NO	N,N-Dimethylbutyramide B.p., 124.5/100 mm. 1178
C <sub>6</sub> H <sub>12</sub> O	Hexanal B.p., 128.3 245, 1219	C <sub>6</sub> H <sub>13</sub> NO	2,6-Dimethylmorpholine 261 B.p., 146.6
C <sub>6</sub> H <sub>12</sub> O	Isobutyl vinyl ether B.p., 83.4 244, 820, 1727	C <sub>6</sub> H <sub>13</sub> NO	4-Ethylmorpholine 262 B.p., 138.3
C <sub>6</sub> H <sub>12</sub> O	2-Methylvaleraldehyde B.p., 118.3 246, 1067, 1773	C <sub>6</sub> H <sub>13</sub> NO <sub>2</sub>	4-Morpholineethanol 263 B.p., 225.5
C <sub>6</sub> H <sub>12</sub> O	4-Methyl-2-pentanone B.p., 116.2 582, 653, 953, 1046, 1468, 1513, 1524, 1525, 1761, 1840, 1916	C <sub>6</sub> H <sub>14</sub>	2,2-Dimethylbutane B.p., 49.74 586, 654, 899, 992, 1375
C <sub>6</sub> H <sub>12</sub> OS	2-Ethylthioethyl vinyl ether B.p., 169.7 247	C <sub>6</sub> H <sub>14</sub>	2,3-Dimethylbutane B.p., 58.05 955, 993, 1111, 1165
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acetate B.p., 126.2 583, 954, 1190, 1220, 1232, 1244, 1526-1528, 1785, 1791, 1826, 1827, 1907, 1935	C <sub>6</sub> H <sub>14</sub>	Hexane B.p., 68.60 40, 264, 657, 756, 822, 956, 962, 994, 1005, 1112, 1115, 1138, 1166, 1175, 1195, 1221, 1456, 1462, 1469, 1492, 1515, 1520, 1537-1539, 1728, 1753, 1782, 1786, 1792, 1852, 1853, 1877, 1887, 1930, 1938
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	<u>sec</u> -Butyl acetate B.p., 112.3 1233, 1526, 1802, 1826, 1828, 1906	C <sub>6</sub> H <sub>14</sub>	2-Methylpentane B.p., 60.27 655, 823, 995
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	2-Ethylbutyric acid 248 B.p., 194.2	C <sub>6</sub> H <sub>14</sub>	3-Methylpentane 565, 996 B.p., 63.28
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	2-Ethyl-2-methyl-1,3-dioxolane B.p., 117.6 251	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub>	2,5-Dimethylpiperazine B.p., 164 265, 1245, 1394
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Hexanoic acid B.p., 205.15 249, 1529, 1530	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O	4-(2-Aminoethyl)morpholine B.p., 204.7 266
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	4-Hydroxy-4-methyl-2-pentanone (diacetone alcohol) B.p., 161 250, 1508	C <sub>6</sub> H <sub>14</sub> N <sub>2</sub> O	1-Piperazineethanol 267 B.p., 246.3
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	2-Methylpentanoic acid 252 B.p., 196.4	C <sub>6</sub> H <sub>14</sub> O	Isopropyl propyl ether 1732
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	Tetrahydropyran-2-methanol B.p., 187.2 254	C <sub>6</sub> H <sub>14</sub> O	Butyl ethyl ether B.p., 92.2 268, 658, 824, 1729, 1762
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	4-Vinyloxy-1-butanol 253, 1241	C <sub>6</sub> H <sub>14</sub> O	2-Ethyl-1-butanol B.p., 147.0 269, 1540, 1541
C <sub>6</sub> H <sub>12</sub> O <sub>2</sub> S	2,4-Dimethylsulfolane 1532, 1533	C <sub>6</sub> H <sub>14</sub> O	Ethyl isobutyl ether 1730 B.p., 79

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>6</sub> H <sub>14</sub> O	Hexyl alcohol B.p., 157.85 270, 874, 1542, 1323	C <sub>6</sub> H <sub>15</sub> NO	2-Diethylaminoethanol 289, 1328 B.p., 162.1
C <sub>6</sub> H <sub>14</sub> O	Isopropyl ether B.p., 68.0 271, 701, 709, 742, 757, 825, 963, 1152, 1183, 1327, 1370, 1543, 1705, 1731, 1751, 1763, 1812, 1819, 1830, 1841, 1891, 1894	C <sub>6</sub> H <sub>15</sub> NO	1-Isopropylamino-2-pro- panol B.p., 164.5 290
C <sub>6</sub> H <sub>14</sub> O	2-Methyl-1-pentanol 272 B.p., 148	C <sub>6</sub> H <sub>15</sub> NO <sub>2</sub>	1,1'-Iminodi-2-propanol B.p., 185/100 mm. 1117, 1569
C <sub>6</sub> H <sub>14</sub> O	4-Methyl-2-pentanol 273, 1544 B.p., 131.8	C <sub>6</sub> H <sub>15</sub> NO <sub>3</sub>	2,2',2"-Nitrilotriethanol 1329
C <sub>6</sub> H <sub>14</sub> OS	2-Butylthioethanol 1545	C <sub>6</sub> H <sub>15</sub> N <sub>3</sub>	4-(2-Aminoethyl)pipera- zine B.p., 222.0 291
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	2-Butoxyethanol B.p., 171.2 1191, 1222, 1527, 1546-1557	C <sub>6</sub> H <sub>16</sub> N <sub>2</sub>	<u>N,N</u> -Diethylethylenedi- amine B.p., 144.9 292
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Diethoxyethane 274 B.p., 102.1	C <sub>6</sub> H <sub>16</sub> N <sub>2</sub>	<u>N,N,N',N'</u> -Tetramethyl- ethylenediamine 293 B.p., 119
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,2-Diethoxyethane 826, 1543 B.p., 121.1	C <sub>6</sub> H <sub>16</sub> OSi	1-(Trimethylsiloxy)propane B.p., 100.3/735 mm. 1068
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Dimethoxybutane B.p., 114 275, 659, 1176	C <sub>7</sub> F <sub>14</sub>	Perfluoro(methylcyclo- hexane) B.p., 73-78 1470
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	2,2-Dimethoxybutane 660 B.p., 106-7	C <sub>7</sub> F <sub>16</sub>	Perfluoroheptane B.p., 83 371, 1390, 1471, 1537, 1570-1573
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,3-Dimethoxybutane 276 B.p., 120.3	C <sub>7</sub> H <sub>n</sub>	C <sub>7</sub> Hydrocarbons B.p., 95-120 1417, 1427
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Dimethoxy-2-methyl- propane B.p., 104.7 277	C <sub>7</sub> H <sub>5</sub> F <sub>3</sub>	<i>a,a,a</i> -Trifluorotoluene 20 B.p., 103.9
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	Hexylene glycol 1558, 1559, 1923	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	Benzoic acid 1574
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	2-Methyl-1,5-pentanediol 278 B.p., 242.4	C <sub>7</sub> H <sub>7</sub> F	<i>o</i> -Fluorotoluene B.p., 114 1403, 1418
C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	3-Methyl-1,5-pentanediol 279 B.p., 248.4	C <sub>7</sub> H <sub>8</sub>	Toluene B.p., 110.7 294, 556, 661, 828, 876, 902, 917, 967, 1049, 1069, 1098, 1118, 1122, 1132, 1184, 1197, 1223, 1342, 1404, 1419, 1428, 1430, 1493, 1516, 1521, 1534, 1538, 1575-1582, 1733, 1754, 1765, 1777, 1778, 1809, 1829, 1831, 1832, 1842, 1880, 1882, 1905, 1911, 1912, 1914, 1920, 1921, 1934, 1939
C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	Bis(2-methoxyethyl)ether 280 B.p., 162	C <sub>7</sub> H <sub>8</sub> O	Benzyl alcohol B.p., 205.2 877, 1583
C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	Dipropylene glycol 1097, 1560, 1561	C <sub>7</sub> H <sub>8</sub> O	<i>x</i> -Cresol B.p., 202 1586-1588, 1924-1926
C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	2-(2-Ethoxyethoxy)ethanol B.p., 202.8 281, 875, 1246, 1281, 1562, 1563	C <sub>7</sub> H <sub>8</sub> O	<i>o</i> -Cresol B.p., 191 878, 1585, 1883
C <sub>6</sub> H <sub>14</sub> O <sub>4</sub>	Triethylene glycol B.p., 288.7 1282, 1564-1568	C <sub>7</sub> H <sub>8</sub> O	<i>m</i> - and <i>p</i> -Cresol B.p., 202 1584, 1589, 1590
C <sub>6</sub> H <sub>14</sub> S	Isopropyl sulfide 1196 B.p., 119.25	C <sub>7</sub> H <sub>8</sub> O	<i>p</i> -Cresol B.p., 201.7 1575, 1591
C <sub>6</sub> H <sub>15</sub> N	Diisopropylamine B.p., 84.1 282, 1047, 1764	C <sub>7</sub> H <sub>8</sub> O <sub>2</sub>	Guaiacol B.p., 205.0 295
C <sub>6</sub> H <sub>15</sub> N	1,3-Dimethylbutylamine 283 B.p., 108.5	C <sub>7</sub> H <sub>9</sub> ClO	2-Chloroallylidene di- acetate B.p., 212.1 296
C <sub>6</sub> H <sub>15</sub> N	Dipropylamine B.p., 109 284	C <sub>7</sub> H <sub>9</sub> N	2,6-Lutidine B.p., 144 297, 758, 1405, 1420, 1502, 1593, 1870-1872
C <sub>6</sub> H <sub>15</sub> N	N-Ethylbutylamine 285 B.p., 111.2		
C <sub>6</sub> H <sub>15</sub> N	Hexylamine B.p., 132.7 286, 1048		
C <sub>6</sub> H <sub>15</sub> N	Triethylamine B.p., 89.4 287, 827, 1706, 1830, 1857, 1927		
C <sub>6</sub> H <sub>15</sub> NO	2-Butylaminoethanol 288 B.p., 199.3		

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>7</sub> H <sub>9</sub> N	N-Methylaniline 879, 1494, 1592	C <sub>7</sub> H <sub>14</sub> O	2,4-Dimethyl-3-pentanone 1406, 1421 B.p., 125
C <sub>7</sub> H <sub>9</sub> N	Pyridine bases 1586-1588, 1924-1926	C <sub>7</sub> H <sub>14</sub> O	3-Heptanone B.p., 147.6 307
C <sub>7</sub> H <sub>9</sub> N	Tetrahydrobenzonitrile 298 B.p., 195.1	C <sub>7</sub> H <sub>14</sub> O	4-Dimethyl-3-pentanone 308 B.p., 143.7
C <sub>7</sub> H <sub>9</sub> N	$\sigma$ -Toluidine B.p., 200.7 1594	C <sub>7</sub> H <sub>14</sub> O	5-Methyl-2-hexanone 309 B.p., 144
C <sub>7</sub> H <sub>10</sub> O	1,2,3,6-Tetrahydrobenzal- dehyd e B.p., 164.2 299	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	Amyl acetate B.p., 146 310
C <sub>7</sub> H <sub>10</sub> O <sub>4</sub>	Allylidene diacetate 300	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	Heptanoic acid 1597 B.p., 222.0
C <sub>7</sub> H <sub>12</sub>	2,4-Dimethyl-1,3-penta- diene B.p., 93.3 301	C <sub>7</sub> H <sub>14</sub> O <sub>3</sub>	Ethyl 3-ethoxypropionate 311 B.p., 170.1
C <sub>7</sub> H <sub>12</sub>	1,3-Heptadiene 829	C <sub>7</sub> H <sub>14</sub> O <sub>3</sub>	3-Methoxybutyl acetate 312 B.p., 171.3
C <sub>7</sub> H <sub>12</sub>	2,4-Heptadiene 830	C <sub>7</sub> H <sub>14</sub> O <sub>4</sub>	2-(2-Methoxyethoxy)ethyl acetate B.p., 208.9 313
C <sub>7</sub> H <sub>12</sub> Cl <sub>4</sub>	Tetrachloroheptane 1366	C <sub>7</sub> H <sub>15</sub> N	1,2-Dimethylpiperidine 1407, 1422 B.p., 128
C <sub>7</sub> H <sub>12</sub> O	3-Hepten-2-one 302, 1509 B.p., 162.9	C <sub>7</sub> H <sub>15</sub> N	2,6-Dimethylpiperidine B.p., 128 1386, 1408, 1423
C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	Butyl acrylate B.p., 147 303, 1224, 1793	C <sub>7</sub> H <sub>15</sub> NO	N,N-Dimethylvaleramide B.p., 141/100 mm. 1386
C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	Cyclohexyl formate 1522	C <sub>7</sub> H <sub>16</sub>	2,2-Dimethylpentane B.p., 79.20 41, 839, 1113, 1316
C <sub>7</sub> H <sub>12</sub> O <sub>2</sub>	2-Ethoxy-3,4-dihydro-1, 2-pyran B.p., 142.9 304	C <sub>7</sub> H <sub>16</sub>	2,3-Dimethylpentane B.p., 89.78 42, 840, 1140, 1306, 1314, 1322, 1473, 1917
C <sub>7</sub> H <sub>12</sub> O <sub>4</sub>	Pimelic acid 305	C <sub>7</sub> H <sub>16</sub>	2,4-Dimethylpentane B.p., 80.50 43, 735, 841, 997, 1141, 1307, 1315, 1474, 1517
C <sub>7</sub> H <sub>14</sub>	1,1-Dimethylcyclopentane B.p., 87.85 831, 1303, 1312, 1320	C <sub>7</sub> H <sub>16</sub>	3,3-Dimethylpentane 842 B.p., 86.07
C <sub>7</sub> H <sub>14</sub>	cis-1,2-Dimethylcyclo- pentane B.p., 99.53 832	C <sub>7</sub> H <sub>16</sub>	3-Ethylpentane 843 B.p., 93.47
C <sub>7</sub> H <sub>14</sub>	trans-1,2-Dimethylcyclo- pentane B.p., 91.87 833	C <sub>7</sub> H <sub>16</sub>	Heptane B.p., 98.25 314, 663, 722, 759, 844, 904, 957, 968, 998, 1006, 1119, 1124, 1142, 1148, 1168, 1225, 1235, 1339, 1343, 1350, 1355, 1379, 1382, 1475, 1495, 1518, 1570, 1577, 1595, 1598-1600, 1735, 1794, 1804, 1813, 1859, 1879, 1881, 1882, 1912, 1913, 1922, 1932, 1939
C <sub>7</sub> H <sub>14</sub>	trans-1,3-Dimethylcyclo- pentane B.p., 91.73 834	C <sub>7</sub> H <sub>16</sub>	2-Methylhexane B.p., 90.05 664, 845, 999
C <sub>7</sub> H <sub>14</sub>	trans-1,3-Dimethylcyclo- pentane B.p., 90.77 662, 835, 1139, 1302, 1311, 1319	C <sub>7</sub> H <sub>16</sub>	3-Methylhexane B.p., 91.85 665, 846, 1000, 1305, 1313, 1321
C <sub>7</sub> H <sub>14</sub>	2,3-Dimethyl-1-pentene 836 B.p., 84.2	C <sub>7</sub> H <sub>16</sub>	2,2,3-Trimethylbutane B.p., 80.88 44, 666, 1001, 1519
C <sub>7</sub> H <sub>14</sub>	Ethylcyclopentane B.p., 103.47 837, 1317, 1354	C <sub>7</sub> H <sub>16</sub> O	3-Heptanol B.p., 156.4 1155
C <sub>7</sub> H <sub>14</sub>	trans-2-Heptene 1076 B.p., 98.0	C <sub>7</sub> H <sub>16</sub> O	5-Methyl-2-hexanol 315
C <sub>7</sub> H <sub>14</sub>	Methylcyclohexane B.p., 101.05 903, 1167, 1234, 1304, 1318, 1338, 1381, 1391, 1472, 1539, 1576, 1595, 1734, 1803, 1878, 1911, 1913, 1921, 1931		
C <sub>7</sub> H <sub>14</sub>	1,1,2,2-Tetramethylcyclo- propane B.p., 75.9 838		
C <sub>7</sub> H <sub>14</sub> O	Butyl isopropenyl ether 306 B.p., 114.8		

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	1-Butoxy-2-methoxyethane 316 B.p., 149.9	C <sub>8</sub> H <sub>10</sub>	m-Xylene B.p., 139 329, 728, 1012, 1127, 1129, 1194, 1249, 1535, 1607, 1615, 1616
C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	1- <i>tert</i> -Butoxy-2-methoxy- ethane 1077	C <sub>8</sub> H <sub>10</sub>	<i>o</i> -Xylene B.p., 143.1/735 mm. 760, 880, 1100, 1250, 1345, 1617, 1861, 1937
C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	1-Butoxy-2-propanol 317 B.p., 170.1	C <sub>8</sub> H <sub>10</sub>	<i>p</i> -Xylene B.p., 138.35 667, 729, 1072, 1080, 1128, 1251, 1285, 1536, 1618
C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	2-Ethyl-1,5-pentanediol 318 B.p., 253.3	C <sub>8</sub> H <sub>10</sub> O	α-Methylbenzyl alcohol 330 B.p., 203.4
C <sub>7</sub> H <sub>16</sub> O <sub>2</sub>	Dipropoxymethane 1774 B.p., 146.6	C <sub>8</sub> H <sub>11</sub> N	N,N-Dimethylaniline B.p., 194.05 881, 1496, 1592
C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	Dipropylene glycol methyl ether 1601	C <sub>8</sub> H <sub>11</sub> N	N-Ethylaniline 331 B.p., 204.8
C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	1-(2-Ethoxyethoxy)-2-pro- panol B.p., 198.1 319	C <sub>8</sub> H <sub>11</sub> N	α-Methylbenzylamine 332 B.p., 188.6
C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	2-Ethoxyethyl 2-methoxy- ethyl ether 320	C <sub>8</sub> H <sub>11</sub> N	2-Methyl-5-ethylpyridine 333, 1578 B.p., 178.3
C <sub>7</sub> H <sub>16</sub> O <sub>3</sub>	2-(2-Propoxyethoxy) ethanol B.p., 215.8 321	C <sub>8</sub> H <sub>11</sub> N	<i>x</i> -Methyl-1,2,3,6-tetra- hydrobenzonitrile 334 B.p., 205.4
C <sub>7</sub> H <sub>17</sub> NO	1-Diethylamino-2-pro- panol B.p., 159.5 322	C <sub>8</sub> H <sub>11</sub> N	<i>s</i> -Collidine B.p., 171.3 882, 1585, 1883
C <sub>7</sub> H <sub>18</sub> N <sub>2</sub>	3-Diethylaminopropyl- amine B.p., 169.4 323	C <sub>8</sub> H <sub>12</sub>	4-Vinylcyclohexene 1081
C <sub>7</sub> H <sub>18</sub> OSi	(Trimethylsiloxy)butane 1226	C <sub>8</sub> H <sub>12</sub> O	2-Methyl-1,2,3,6-tetra- hydrobenzaldehyde 335 B.p., 176.4
C <sub>8</sub> F <sub>16</sub> O	Perfluorocyclic oxide B.p., 102.6 1125, 1330, 1571, 1596, 1602-1604	C <sub>8</sub> H <sub>12</sub> O <sub>2</sub>	3,4-Dihydro-2,5-dimethyl- 2H-pyran-2-carboxalde- hyde B.p., 170.9 336
C <sub>8</sub> F <sub>18</sub> O	Perfluorobutyl ether 1476, 1598 B.p., 100	C <sub>8</sub> H <sub>12</sub> O <sub>4</sub>	Diethyl fumarate 337 B.p., 218.1
C <sub>8</sub> H <sub>5</sub> Cl <sub>3</sub>	<i>ar</i> -Trichlorostyrene 1605	C <sub>8</sub> H <sub>14</sub>	Diisobutylene B.p., 102.3 338, 1050, 1236, 1766, 1805
C <sub>8</sub> H <sub>6</sub> Cl <sub>2</sub>	<i>ar</i> -Dichlorostyrene 1431	C <sub>8</sub> H <sub>14</sub> O	Bicyclo[2.2.1]-heptane-2- methanol B.p., 203.9 339
C <sub>8</sub> H <sub>6</sub> O	Coumarone B.p., 173 1099	C <sub>8</sub> H <sub>14</sub> O	Cyclohexyl vinyl ether 1523
C <sub>8</sub> H <sub>7</sub> N	Indole B.p., 253 1283	C <sub>8</sub> H <sub>14</sub> O	Diisobutylene oxide 340
C <sub>8</sub> H <sub>8</sub>	Styrene B.p., 67.9/57 324, 1070, 1078, 1247, 1606, 1736, 1898, 1908	C <sub>8</sub> H <sub>14</sub> O	2-Ethyl-2-hexenal 341, 668 B.p., 176
C <sub>8</sub> H <sub>8</sub> Cl <sub>2</sub> O <sub>2</sub>	2-(2,4-Dichlorophenoxy) ethanol 325	C <sub>8</sub> H <sub>14</sub> O	2-Octenal 342
C <sub>8</sub> H <sub>8</sub> O	Acetophenone B.p., 201.6 326	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	Butyl methacrylate 1371
C <sub>8</sub> H <sub>8</sub> O	(Epoxyethyl)benzene 327 B.p., 194.2	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	1,1-Diallyloxyethane 343 B.p., 150.9
C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	Phenyl acetate B.p., 195.1 1483, 1919	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	2-Ethyl-3-hexenoic acid 344 B.p., 231.8
C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	Methyl salicylate 1608 B.p., 222.3	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	Vinyl 2-methylvalerate 345 B.p., 148.8
C <sub>8</sub> H <sub>10</sub>	Ethylbenzene B.p., 136.15 328, 1011, 1071, 1079, 1126, 1193, 1227, 1248, 1284, 1344, 1409, 1424, 1558, 1599, 1606, 1609- 1614, 1860, 1873, 1898, 1908, 1915, 1923, 1936	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	Bis(2-vinyloxyethyl)ether 346, 1619 B.p., 198.7
		C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	Butyl acetoacetate 347 B.p., 213.9
		C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	2-Ethoxyethyl methacryl- ate 1372

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>8</sub> H <sub>14</sub> O <sub>4</sub>	Diethyl succinate 348 B.p., 216.2	C <sub>8</sub> H <sub>16</sub>	2,4,4-Trimethyl-2-pentene 854 B.p., 104.91
C <sub>8</sub> H <sub>15</sub> N	2-(Aminoethyl)bicyclo [2.2.1]heptane 349 B.p., 185.9	C <sub>8</sub> H <sub>16</sub> O	2-Ethylhexanal 350, 1540 B.p., 163.6
C <sub>8</sub> H <sub>16</sub>	1,1-Dimethylcyclohexane 847 B.p., 119.54	C <sub>8</sub> H <sub>16</sub> O	2,4,4-Trimethyl-1,2- epoxypentane B.p., 140.9 351
C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1,2-Dimethylcyclo- hexane B.p., 123.42 1051, 1252	C <sub>8</sub> H <sub>16</sub> O	2,4,4-Trimethyl-2,3- epoxypentane B.p., 127.3 352
C <sub>8</sub> H <sub>16</sub>	1,3-Dimethylcyclohexane 1383 B.p., 120.3	C <sub>8</sub> H <sub>16</sub> OS	2-Butylthioethyl vinyl ether B.p., 210.5 353, 1545
C <sub>8</sub> H <sub>16</sub>	<u>cis</u> -1,3-Dimethylcyclohex- ane B.p., 120.09 1082	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2-Butoxyethyl vinyl ether 354
C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1,3-Dimethylcyclo- hexane B.p., 124.45 849, 905, 1198, 1356	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	1,3-Dimethylbutyl acetate 1620 B.p., 146.1
C <sub>8</sub> H <sub>16</sub>	<u>cis</u> -1,4-Dimethylcyclo- hexane B.p., 124.32 848	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2,3-Epoxy-2-ethylhexanol 355
C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1,4-Dimethylcyclo- hexane B.p., 119.35 850	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2-Ethylbutyl acetate 356, 1542 B.p., 162.3
C <sub>8</sub> H <sub>16</sub>	Ethylcyclohexane B.p., 131.85 1199, 1253, 1559, 1602, 1609, 1923	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	2-Ethylhexanoic acid 357, 1621 B.p., 227.6
C <sub>8</sub> H <sub>16</sub>	1-Ethyl-1-methylcyclo- pentane B.p., 121.52 851	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	Hexyl acetate B.p., 171.0 358
C <sub>8</sub> H <sub>16</sub>	<u>cis</u> -1-Ethyl-2-methyl- cyclopentane 1052 B.p., 128.05	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	Iso-octanoic acid (iso- mers) B.p., 220 359
C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1-Ethyl-2-methyl- cyclopentane B.p., 121.2 1053, 1083	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	4-Methyl-2-pentyl acetate B.p., 146.1 360, 1510, 1524, 1544
C <sub>8</sub> H <sub>16</sub>	<u>trans</u> -1-Ethyl-3-methyl- cyclopentane B.p., 120.8 1054, 1084	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	Octanoic acid B.p., 238.5 1529, 1622
C <sub>8</sub> H <sub>16</sub>	1-Octene B.p., 121.6 1610	C <sub>8</sub> H <sub>16</sub> O <sub>3</sub>	2-Butoxyethyl acetate 361 B.p., 192.2
C <sub>8</sub> H <sub>16</sub>	<u>cis</u> -2-Octene B.p., 125.6 1254	C <sub>8</sub> H <sub>16</sub> O <sub>3</sub>	2,5-Diethoxytetrahydro- furan B.p., 173.0 362
C <sub>8</sub> H <sub>16</sub>	1,1,2-Trimethylcyclopen- tane B.p., 113.73 1055, 1357	C <sub>8</sub> H <sub>16</sub> O <sub>3</sub>	2-Ethoxyethyl 2-vinyloxy- ethyl ether B.p., 194.0 363
C <sub>8</sub> H <sub>16</sub>	1,1,3-Trimethylcyclopen- tane B.p., 104.89 1056, 1085	C <sub>8</sub> H <sub>16</sub> O <sub>4</sub>	2-(2-Ethoxyethoxy)ethyl acetate B.p., 217.4 364, 1623
C <sub>8</sub> H <sub>16</sub>	1, <u>cis</u> -2, <u>cis</u> -3-Trimethyl- cyclopentane B.p., 123.0 1086	C <sub>8</sub> H <sub>17</sub> Cl	1-Chloro-2-ethylhexane 365 B.p., 173
C <sub>8</sub> H <sub>16</sub>	1, <u>cis</u> -2, <u>trans</u> -3-Trimethyl- cyclopentane B.p., 117.5 852, 1057	C <sub>8</sub> H <sub>17</sub> Cl	3-(Chloromethyl)heptane 1541, 1624
C <sub>8</sub> H <sub>16</sub>	1, <u>trans</u> -2, <u>cis</u> -3-Trimethyl- cyclopentane B.p., 110.2 1087	C <sub>8</sub> H <sub>17</sub> N	<u>N</u> -Ethylcyclohexylamine 366 B.p., 164.9
C <sub>8</sub> H <sub>16</sub>	1, <u>cis</u> -2, <u>trans</u> -4-Trimethyl- cyclopentane 1058 B.p., 116.73	C <sub>8</sub> H <sub>17</sub> N	5-Ethyl-2-methylpiperi- dine B.p., 163.4 367
C <sub>8</sub> H <sub>16</sub>	1, <u>trans</u> -2, <u>cis</u> -4-Trimethyl- cyclopentane 853 B.p., 109.29	C <sub>8</sub> H <sub>17</sub> N	<u>ar</u> -Methylcyclohexane- methylamine 368
C <sub>8</sub> H <sub>16</sub>	2,4,4-Trimethyl-1-pentene 493, 1088 B.p., 101.44	C <sub>8</sub> H <sub>17</sub> NO	<u>N,N</u> -Dimethylhexanamide 1530
		C <sub>8</sub> H <sub>17</sub> NO	4-Ethyl-2,6-dimethylmor- pholine B.p., 158.1 369
		C <sub>8</sub> H <sub>18</sub>	2,2-Dimethylhexane B.p., 106.84 855, 1323, 1353
		C <sub>8</sub> H <sub>18</sub>	2,3-Dimethylhexane 856, 906 B.p., 115.61
		C <sub>8</sub> H <sub>18</sub>	2,4-Dimethylhexane 1089 B.p., 109.43

Formula	Name and System Nos.	Formula	Name and System Nos.
$C_8H_{18}$	2,5-Dimethylhexane B.p., 109.15 1169, 1200, 1255, 1352, 1360, 1384	$C_8H_{18}O_2$	2-Ethyl-3-methyl-1,5- pentanediol B.p., 265.5 377
$C_8H_{18}$	3,3-Dimethylhexane 1256 B.p., 111.97	$C_8H_{18}O_2$	2-Hexyloxyethanol 378 B.p., 208.1
$C_8H_{18}$	3,4-Dimethylhexane 857 B.p., 117.73	$C_8H_{18}O_2$	2-(2-Methylpentoxy) ethanol B.p., 197.1 379
$C_8H_{18}$	3-Ethyl-3-methylpentane 1257 B.p., 118.26	$C_8H_{18}O_3$	Bis(2-ethoxyethyl) ether B.p., 188.4 381, 1562, 1619
$C_8H_{18}$	Iso-octane 529, 1237, 1497, 1579, 1806, 1933	$C_8H_{18}O_3$	2-(2-Butoxyethoxy)ethanol B.p., 231.2 380, 884, 1286, 1479, 1633-1637, 1847
$C_8H_{18}$	2-Methylheptane B.p., 117.65 858, 907, 1201, 1351, 1359	$C_8H_{18}O_4$	1,2-Bis(2-methoxyethoxy) ethane 382
$C_8H_{18}$	3-Methylheptane 859 B.p., 118.93	$C_8H_{18}O_4$	2-[2-(2-Ethoxyethoxy) ethoxy]ethanol 1287
$C_8H_{18}$	4-Methylheptane 860 B.p., 117.71	$C_8H_{19}N$	Dibutylamine B.p., 159.6 383, 1230, 1797, 1811, 1904
$C_8H_{18}$	n-Octane B.p., 125.7 48, 370, 669, 723, 761, 1007, 1202, 1228, 1258, 1346, 1358, 1396, 1410, 1425, 1477, 1500, 1572, 1611, 1618, 1795, 1814, 1862, 1866, 1870	$C_8H_{19}N$	2-Ethylhexylamine 384 B.p., 169.1
$C_8H_{18}$	2,2,3-Trimethylpentane 861, 1090 B.p., 109.84	$C_8H_{19}NO$	2-Diisopropylaminoethanol 385, 885 B.p., 190.9
$C_8H_{18}$	2,2,4-Trimethylpentane B.p., 99.24 862, 1059, 1308, 1324, 1478, 1580, 1600, 1603	$C_8H_{19}NO_2$	2,2'-Butyliminodiethanol 386
$C_8H_{18}$	2,3,3-Trimethylpentane 863 B.p., 114.76	$C_8H_{19}NO_2$	1,1'-Ethyliminodi-2- propanol B.p., 238.9 387
$C_8H_{18}Cl_2Sn$	Dibutyltin dichloride B.p., 157/17 mm. 1204, 1625, 1902	$C_9F_{21}N$	Tris(perfluoropropyl) amine B.p., 130 1638
$C_8H_{18}O$	Butyl ether B.p., 142.1 865, 883, 969, 1107, 1149, 1206, 1229, 1239, 1528, 1626, 1737, 1796, 1807, 1827, 1828, 1907, 1935	$C_9H_6N_2O_2$	2,4-Tolylene diisocyanate 1458, 1459, 1463, 1639
$C_8H_{18}O$	2-Ethyl-1-hexanol B.p., 184.8 371, 1156, 1484, 1615, 1624, 1626-1629	$C_9H_6N_2O_2$	2,6-Tolylene diisocyanate 1639
$C_8H_{18}O$	Iso-octyl alcohol (isomers) 372 B.p., 186.5	$C_9H_7N$	Isoquinoline 1640
$C_8H_{18}O$	Octyl alcohol B.p., 195.15 1630	$C_9H_7N$	Quinoline B.p., 237.3 1641
$C_8H_{18}OS$	2-Hexylthioethanol 1631	$C_9H_8O_2$	Vinyl benzoate 388
$C_8H_{18}O_2$	1-Butoxy-2-ethoxyethane 374 B.p., 164.2	$C_9H_{10}$	$\alpha$ -Methylstyrene 1485
$C_8H_{18}O_2$	1,1-Diethoxybutane 375 B.p., 146.3	$C_9H_{10}O$	Benzyl vinyl ether 1583
$C_8H_{18}O_2$	5-Ethoxy-3-methylpen- tanol B.p., 211.7 376	$C_9H_{10}O_2$	1,2-Epoxy-3-phenoxypro- pane B.p., 244.4 389
$C_8H_{18}O_2$	2-Ethyl-1,3-hexanediol B.p., 243.1 373, 866, 1632, 1738	$C_9H_{10}O_2$	Ethyl benzoate B.p., 213.3 584, 1584, 1591
		$C_9H_{10}O_3$	Ethyl salicylate 1642 B.p., 233.7 390
		$C_9H_{11}N$	5-Ethyl-2-vinylpyridine 390
		$C_9H_{12}$	Cumene B.p., 152.4 391, 762, 1486, 1546, 1612, 1638, 1643
		$C_9H_{12}$	m-Ethyltoluene 1433 B.p., 161.31
		$C_9H_{12}$	o-Ethyltoluene B.p., 165.15 1259, 1434

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>9</sub> H <sub>12</sub>	p-Ethyltoluene 1432 B.p., 161.99	C <sub>9</sub> H <sub>20</sub>	3,3-Diethylpentane 1266 B.p., 146.17
C <sub>9</sub> H <sub>12</sub>	<u>x</u> -Ethyltoluene 1531	C <sub>9</sub> H <sub>20</sub>	n-Nonane B.p., 150.2 403, 671, 724, 763, 970, 1008, 1231, 1267, 1325, 1347, 1501, 1573, 1613, 1617, 1627, 1648, 1798, 1815, 1863, 1867, 1873, 1936, 1937
C <sub>9</sub> H <sub>12</sub>	Mesitylene B.p., 164.72 1260, 1437, 1644	C <sub>9</sub> H <sub>20</sub>	2,2,3,3-Tetramethylpen- tane B.p., 140.27 1268
C <sub>9</sub> H <sub>12</sub>	Propylbenzene 1487 B.p., 158.9	C <sub>9</sub> H <sub>20</sub>	2,2,3,4-Tetramethylpen- tane B.p., 133.02 1092
C <sub>9</sub> H <sub>12</sub>	1,2,3-Trimethylbenzene 1435 B.p., 176.08	C <sub>9</sub> H <sub>20</sub>	2,2,4,4-Tetramethylpen- tane B.p., 122.28 1269
C <sub>9</sub> H <sub>12</sub>	1,2,4-Trimethylbenzene B.p., 169.35 1436, 1644	C <sub>9</sub> H <sub>20</sub>	2,3,3,4-Tetramethylpen- tane B.p., 141.55 1270
C <sub>9</sub> H <sub>12</sub> OS	2-Benzylthioethanol 1645	C <sub>9</sub> H <sub>20</sub>	2,2,3-Trimethylhexane 1271 B.p., 133.60
C <sub>9</sub> H <sub>12</sub> O <sub>2</sub>	Bicyclo[2.2.1]hept-5-ene- 2-ol acetate B.p., 188.6 392	C <sub>9</sub> H <sub>20</sub>	2,2,4-Trimethylhexane 1272 B.p., 126.54
C <sub>9</sub> H <sub>13</sub> NO	5-Ethyl-2-pyridineethanol 393	C <sub>9</sub> H <sub>20</sub>	2,2,5-Trimethylhexane B.p., 124 1411, 1426, 1614
C <sub>9</sub> H <sub>14</sub> O	Isophorone B.p., 215.2 394, 1646	C <sub>9</sub> H <sub>20</sub>	2,3,3-Trimethylhexane 1273 B.p., 137.68
C <sub>9</sub> H <sub>14</sub> O	1-Methyl-2,5-endomethyl- encyclohexane-1-meth- anol B.p., 211.1 395	C <sub>9</sub> H <sub>20</sub>	2,3,4-Trimethylhexane 1093, 1604 B.p., 139.0
C <sub>9</sub> H <sub>14</sub> O	Phorone B.p., 197.8 886	C <sub>9</sub> H <sub>20</sub>	2,3,5-Trimethylhexane B.p., 131.34 1094, 1274
C <sub>9</sub> H <sub>14</sub> OSi	(Trimethylsiloxy)benzene 1488 B.p., 181.9	C <sub>9</sub> H <sub>20</sub>	2,4,4-Trimethylhexane 1275 B.p., 130.65
C <sub>9</sub> H <sub>15</sub> N	Triallylamine B.p., 151.1 396	C <sub>9</sub> H <sub>20</sub>	3,3,4-Trimethylhexane 1276 B.p., 140.46
C <sub>9</sub> H <sub>16</sub>	<u>cis</u> -Hexahydroindan 1547 B.p., 167.7	C <sub>9</sub> H <sub>20</sub> O	2,6-Dimethyl-4-heptanol 404, 1649 B.p., 178.1
C <sub>9</sub> H <sub>16</sub> O	5-Ethyl-3-hepten-2-one 397 B.p., 193.5	C <sub>9</sub> H <sub>20</sub> O <sub>2</sub>	Dibutoxymethane 1799 B.p., 181.8
C <sub>9</sub> H <sub>16</sub> O <sub>2</sub>	2,2-Bis(allyloxy)propane 1755, 1891	C <sub>9</sub> H <sub>20</sub> O <sub>2</sub>	Diisobutoxymethane 1808 B.p., 163.8
C <sub>9</sub> H <sub>16</sub> O <sub>4</sub>	Dimethyl pimelate 398 B.p., 248.9	C <sub>9</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethyl-2-butyl-1,3- propanediol 405
C <sub>9</sub> H <sub>18</sub>	Butylcyclopentane 1261 B.p., 156.56	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	1-(2-Butoxyethoxy)-2- propanol B.p., 230.3 406
C <sub>9</sub> H <sub>18</sub>	Isobutylcyclopentane 1262 B.p., 147.6	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	2-(2-Isoamyoxyethoxy) ethanol 1605
C <sub>9</sub> H <sub>18</sub>	Isopropylcyclohexane 1263 B.p., 154.5	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	2-Methoxymethyl-2,4- dimethyl-1,5-pentanediol 407
C <sub>9</sub> H <sub>18</sub>	1-Nonene B.p., 146.85 1264	C <sub>9</sub> H <sub>20</sub> O <sub>3</sub>	1,1,3-Triethoxypropane 408
C <sub>9</sub> H <sub>18</sub>	Propylcyclohexane B.p., 156.72 1265, 1647	C <sub>9</sub> H <sub>20</sub> O <sub>4</sub>	Tripropylene glycol 1650-1652
C <sub>9</sub> H <sub>18</sub>	1,1,3-Trimethylcyclohex- ane B.p., 136.6 1091	C <sub>9</sub> H <sub>21</sub> N	N-Methyldibutylamine 409 B.p., 163.1
C <sub>9</sub> H <sub>18</sub> O	2,6-Dimethyl-4-heptanone B.p., 169.4 399, 670, 1207, 1511, 1525, 1620	C <sub>9</sub> H <sub>21</sub> N	Tripropylamine B.p., 156. 410
C <sub>9</sub> H <sub>18</sub> O	2-Ethylheptanal 1616	C <sub>9</sub> H <sub>21</sub> NO <sub>2</sub>	1,1'-Isopropyliminodi-2- propanol B.p., 248.6 411
C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	2-Heptyl acetate 400 B.p., 176.4		
C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	3-Heptyl acetate 401 B.p., 173.8		
C <sub>9</sub> H <sub>18</sub> O <sub>3</sub>	3-(2-Ethylbutoxy)propionic acid 402		
C <sub>9</sub> H <sub>19</sub> NO	<u>N,N</u> -Dimethylheptanamide 1597		

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>9</sub> H <sub>21</sub> NO <sub>3</sub>	1,1',1"-Nitrilotri-2-propanol 1569	C <sub>10</sub> H <sub>18</sub>	Decahydronaphthalene 1654
C <sub>9</sub> H <sub>21</sub> NO <sub>4</sub>	2-(2-[2-(3-Aminopropoxy)ethoxy]ethoxy)ethanol 412	C <sub>10</sub> H <sub>18</sub> O <sub>2</sub>	Vinyl 2-ethylhexanoate 426 B.p., 185.2
C <sub>10</sub> H <sub>8</sub>	Naphthalene B.p., 218.1 887, 1102, 1288, 1560, 1589, 1633, 1653, 1678, 1924-1926	C <sub>10</sub> H <sub>18</sub> O <sub>2</sub>	Vinyl octanoate (isomers) 427
C <sub>10</sub> H <sub>8</sub> N <sub>2</sub>	2,2'-Dipyridyl B.p., 274. 1348	C <sub>10</sub> H <sub>18</sub> O	Menthone B.p., 209.5 1655
C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	Dimethyl phthalate 413 B.p., 282.9	C <sub>10</sub> H <sub>20</sub>	n-Butylcyclohexane 1552 B.p., 180.95
C <sub>10</sub> H <sub>12</sub> O <sub>3</sub>	2-Phenoxyethyl acetate 414 B.p., 260.6	C <sub>10</sub> H <sub>20</sub>	sec-Butylcyclohexane 1553 B.p., 179.3
C <sub>10</sub> H <sub>14</sub>	Butylbenzene B.p., 183.27 1438, 1548	C <sub>10</sub> H <sub>20</sub>	tert-Butylcyclohexane 1277 B.p., 171.5
C <sub>10</sub> H <sub>14</sub>	<u>sec</u> -Butylbenzene B.p., 173.30 1439, 1549	C <sub>10</sub> H <sub>20</sub>	Isobutylcyclohexane 1554 B.p., 171.3
C <sub>10</sub> H <sub>14</sub>	<u>tert</u> -Butylbenzene B.p., 169.11 1440, 1550	C <sub>10</sub> H <sub>20</sub>	<u>cis</u> -1-Isopropyl-4-methylcyclohexane B.p., 172.7 1555
C <sub>10</sub> H <sub>14</sub>	p-Cymene B.p., 177.2 1445, 1498, 1551	C <sub>10</sub> H <sub>20</sub> O	trans-1-Isopropyl-4-methylcyclohexane 1556 B.p., 170.5
C <sub>10</sub> H <sub>14</sub>	Dicyclopentadiene 415 B.p., 172	C <sub>10</sub> H <sub>20</sub> O	2-Ethylhexyl vinyl ether 428, 1810 B.p., 177.7
C <sub>10</sub> H <sub>14</sub>	<u>m</u> -Diethylbenzene 1442 B.p., 181.13	C <sub>10</sub> H <sub>20</sub> O	Menthol 1655
C <sub>10</sub> H <sub>14</sub>	p-Diethylbenzene 1443 B.p., 183.78	C <sub>10</sub> H <sub>20</sub> O	Octyl vinyl ether 1630
C <sub>10</sub> H <sub>14</sub>	5-Ethyl- <u>m</u> -xylene 1444 B.p., 183.75	C <sub>10</sub> H <sub>20</sub> OS	2-Hexylthioethyl vinyl ether 888, 1631
C <sub>10</sub> H <sub>14</sub>	Isobutylbenzene 1441 B.p., 172.76	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethylbutyl butyrate 429 B.p., 199.6
C <sub>10</sub> H <sub>14</sub>	1,2,3,5-Tetramethylbenzene B.p., 197.93 1446	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	2-Ethylhexyl acetate 430, 1628 B.p., 198.4
C <sub>10</sub> H <sub>14</sub> N <sub>2</sub>	Nicotine 416	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	4-Methyl-2-pentyl butyrate B.p., 182.6 431
C <sub>10</sub> H <sub>14</sub> O <sub>2</sub>	Ethyl bicyclo[2.2.1]hept-5-en-2-carboxylate 417 B.p., 198	C <sub>10</sub> H <sub>20</sub> O <sub>3</sub>	2-Butoxyethyl 2-vinyoxyethyl ether B.p., 226.7 432
C <sub>10</sub> H <sub>14</sub> O <sub>3</sub>	2-(2-Phenoxyethoxy)ethanol B.p., 297.9 418	C <sub>10</sub> H <sub>21</sub> Cl	Chlorodecane (isomers) 433 B.p., 210.6
C <sub>10</sub> H <sub>15</sub> N	N-Butylaniline B.p., 240.4 419	C <sub>10</sub> H <sub>21</sub> N	N-Butylcyclohexylamine 434 B.p., 209.5
C <sub>10</sub> H <sub>15</sub> N	N-Ethyl- $\alpha$ -methylbenzylamine B.p., 201.2 420	C <sub>10</sub> H <sub>21</sub> NO	N,N-Dimethyloctanamide B.p., 187/100 mm. 1622
C <sub>10</sub> H <sub>15</sub> N	N,N, $\alpha$ -Trimethylbenzylamine B.p., 195.8 421	C <sub>10</sub> H <sub>22</sub>	Decane B.p., 173.3 672, 725, 765, 1009, 1016, 1349, 1593, 1654, 1816, 1864, 1868, 1871
C <sub>10</sub> H <sub>15</sub> NO	2-( $\alpha$ -Methylbenzylamino)ethanol 422	C <sub>10</sub> H <sub>22</sub>	3-Ethyl-3-methylheptane 1326 B.p., 163
C <sub>10</sub> H <sub>16</sub>	Camphene 764	C <sub>10</sub> H <sub>22</sub>	3,3,5-Trimethylheptane 1557, 1656 B.p., 155.5
C <sub>10</sub> H <sub>16</sub> O	Dicyclopentenol 423	C <sub>10</sub> H <sub>22</sub>	Decyl alcohol B.p., 232.9 1581, 1657, 1831
C <sub>10</sub> H <sub>16</sub> O	Trimethyltetrahydrobenzaldehyde B.p., 204.5 424	C <sub>10</sub> H <sub>22</sub> O	2-Ethyloctanol 436 B.p., 220.5
C <sub>10</sub> H <sub>16</sub> O <sub>4</sub>	Diisopropyl maleate 425 B.p., 228.7	C <sub>10</sub> H <sub>22</sub> O	2-Propylheptanol 437 B.p., 217.9
		C <sub>10</sub> H <sub>22</sub> OS	2-(2-Ethylhexylthio)ethanol 1658
		C <sub>10</sub> H <sub>22</sub> O <sub>2</sub>	1,2-Dibutoxyethane 438 B.p., 203.6

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>10</sub> H <sub>22</sub> O <sub>2</sub>	1,2-Diisobutoxyethane 439 B.p., 160.5		1817, 1865, 1869, 1872, 1892, 1900
C <sub>10</sub> H <sub>22</sub> O <sub>3</sub>	2-(2-Hexyloxyethoxy) ethanol B.p., 259.1 440	C <sub>11</sub> H <sub>24</sub> O	5-Ethyl-2-nonanol B.p., 225
C <sub>10</sub> H <sub>22</sub> O <sub>4</sub>	1,2-Bis(2-ethoxyethoxy) ethane B.p., 206.9 441	C <sub>11</sub> H <sub>24</sub> O <sub>2</sub>	Diamyloxymethane 1397, 1821
C <sub>10</sub> H <sub>22</sub> O <sub>4</sub>	Tripropylene glycol methyl ether B.p., 243 889, 1103, 1659	C <sub>11</sub> H <sub>24</sub> O <sub>2</sub>	2,2-Dibutoxypropane 458
C <sub>10</sub> H <sub>22</sub> O <sub>5</sub>	Bis[2-(2-methoxyethoxy) ethyl]ether 442	C <sub>11</sub> H <sub>24</sub> O <sub>4</sub>	2-Nonyloxyethanol 459 B.p., 225.5
C <sub>10</sub> H <sub>23</sub> N	Decylamine (isomers) 443 B.p., 203.7	C <sub>11</sub> H <sub>25</sub> N	1,1,3,3-Tetraethoxypro- pane B.p., 220.1 460
C <sub>10</sub> H <sub>23</sub> N	Diamylamine (isomers) 444 B.p., 190	C <sub>11</sub> H <sub>25</sub> NO	2-Ethyl-N-propylhexyl- amine 1629
C <sub>10</sub> H <sub>23</sub> N	N,N-Dimethyl-2-ethylhex- ylamine B.p., 176.1 445	C <sub>12</sub> F <sub>27</sub> N	1-Dibutylamino-2-pro- panol B.p., 229.1 461
C <sub>10</sub> H <sub>23</sub> NO	2-Dibutylaminoethanol 446 B.p., 228.7		Tris(perfluorobutyl)amine B.p., 177 1457, 1643, 1647, 1648, 1656, 1917
C <sub>11</sub> H <sub>10</sub>	1-Methylnaphthalene 1504, 1634, 1660 B.p., 244.8	C <sub>12</sub> H <sub>9</sub> N	Carbazole B.p., 294 1290, 1564, 1650, 1662, 1663
C <sub>11</sub> H <sub>10</sub>	2-Methylnaphthalene B.p., 241.1 773, 1447, 1505, 1561, 1563, 1590, 1601, 1608, 1621, 1623, 1635, 1640, 1641	C <sub>12</sub> H <sub>10</sub>	Biphenyl B.p., 355.9 1291, 1664
C <sub>11</sub> H <sub>14</sub> OS	2-(Benzylmercapto)-ethyl vinyl ether 1289, 1645	C <sub>12</sub> H <sub>11</sub> O	Phenyl ether B.p., 259.3 890, 1292, 1565, 1574, 1642
C <sub>11</sub> H <sub>14</sub> O <sub>3</sub>	Butyl salicylate 447 B.p., 268.2	C <sub>12</sub> H <sub>11</sub> N	Diphenylamine B.p., 265/350 mm. 1503
C <sub>11</sub> H <sub>14</sub> O <sub>3</sub>	Ethyl 6-formylbicyclo- [2.2.1]hept-5-en-2-car- boxylate 448	C <sub>12</sub> H <sub>14</sub> O <sub>4</sub>	Diethyl phthalate 462 B.p., 294.3
C <sub>11</sub> H <sub>16</sub>	tert-Amylbenzene 1448 B.p., 198.1	C <sub>12</sub> H <sub>18</sub>	1,3,5-Triethylbenzene 1489 B.p., 215.5
C <sub>11</sub> H <sub>16</sub> O <sub>3</sub>	Allyl 6-methyl-3,4-epoxy- cyclohexanecarboxylate 449 B.p., 251.4	C <sub>12</sub> H <sub>18</sub> O	Triisobutylene oxide 463
C <sub>11</sub> H <sub>17</sub> N	N,N-Diethyl- <i>o</i> -toluidine 1594	C <sub>12</sub> H <sub>19</sub> N	N-Butyl- $\alpha$ -methylbenzyl- amine B.p., 239.3 464
C <sub>11</sub> H <sub>18</sub> O <sub>2</sub>	Isopropyl 6-methyl-3- cyclohexanecarboxylate 450 B.p., 215.2	C <sub>12</sub> H <sub>20</sub> O <sub>2</sub>	sec-Butyl 6-methyl-3- cyclohexanecarboxylate 465
C <sub>11</sub> H <sub>20</sub> O	5-Ethyl-3-nonene-2-one 451 B.p., 226.4	C <sub>12</sub> H <sub>20</sub> O <sub>2</sub>	Isobornyl acetate 767 B.p., 225.8
C <sub>11</sub> H <sub>20</sub> O <sub>4</sub>	Diethyl pimelate 452 B.p., 268.1	C <sub>12</sub> H <sub>20</sub> O <sub>4</sub>	Dibutyl fumarate 466 B.p., 285.2
C <sub>11</sub> H <sub>22</sub>	tert-Amylcyclohexane 1449 B.p., 198.1	C <sub>12</sub> H <sub>20</sub> O <sub>4</sub>	Dibutyl maleate 467 B.p., 280.6
C <sub>11</sub> H <sub>22</sub> O	5-Ethyl-2-nonanone 453 B.p., 222.9	C <sub>12</sub> H <sub>22</sub> O <sub>2</sub>	2-Ethylhexyl crotonate 468 B.p., 241.2
C <sub>11</sub> H <sub>22</sub> O <sub>2</sub>	2,6-Dimethyl-4-heptyl acetate B.p., 192.2 454	C <sub>12</sub> H <sub>22</sub> O <sub>2</sub>	Vinyl decanoate (isomers) 469
C <sub>11</sub> H <sub>22</sub> O <sub>3</sub>	4-Methoxy-2,6-dipropyl- 1,3-dioxane B.p., 223.6 455	C <sub>12</sub> H <sub>22</sub> O <sub>4</sub>	Diethyl 2-ethyl-3-methyl- glutarate B.p., 255.8 470
C <sub>11</sub> H <sub>24</sub>	Undecane B.p., 195.88 456, 673, 726, 766, 1010, 1017, 1179, 1450,	C <sub>12</sub> H <sub>23</sub> N	Dicyclohexylamine 471 B.p., 255.8
		C <sub>12</sub> H <sub>24</sub>	2,6,8-Trimethylnonene 1649, 1665
		C <sub>12</sub> H <sub>24</sub> O	2,6,8-Trimethyl-4-nona- none B.p., 218.2 472

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>12</sub> H <sub>24</sub> OS	2-(2-Ethylhexylthio)ethyl vinyl ether 1293, 1658	C <sub>14</sub> H <sub>24</sub>	1,3,6,8-Tetramethyl-1,6-cyclodecadiene 491 B.p., 220.5
C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	2-Ethylbutyl 2-ethylbutyrate 473 B.p., 222.6	C <sub>14</sub> H <sub>26</sub> O <sub>4</sub>	Dibutyl adipate 492
C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	2-Ethylbutyl hexanoate 474 B.p., 236.2	C <sub>14</sub> H <sub>28</sub> O	Trimethylnonyl vinyl ether 493 B.p., 223.4
C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	Hexyl 2-ethylbutyrate 475 B.p., 230.3	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	2-Ethylbutyl 2-ethylhexanoate 494 B.p., 261.5
C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	Hexyl hexanoate 476 B.p., 245.2	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	2-Ethylhexyl 2-ethylbutyrate 495 B.p., 252.8
C <sub>12</sub> H <sub>26</sub>	Dodecane B.p., 216 477, 768, 1018, 1104, 1451, 1636, 1653, 1666, 1818	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	2-Ethylhexyl hexanoate 496 B.p., 267.2
C <sub>12</sub> H <sub>26</sub>	2,2,4,6,6-Pentamethylheptane B.p., 185.6 1452	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	Hexyl 2-ethylhexanoate 497 B.p., 254.3
C <sub>12</sub> H <sub>26</sub>	2,2,4,6,6-Pentamethylheptane B.p., 177.9 1453	C <sub>14</sub> H <sub>29</sub> N	N-(2-Ethylhexyl)cyclohexylamine 498
C <sub>12</sub> H <sub>26</sub> O	2-Butyl-1-octanol 478 B.p., 253.4	C <sub>14</sub> H <sub>30</sub>	Tetradecane B.p., 252.5 1105
C <sub>12</sub> H <sub>26</sub> O	Dodecyl alcohol 1657	C <sub>14</sub> H <sub>30</sub> O	7-Ethyl-2-methyl-4-undecanol B.p., 264.3 499
C <sub>12</sub> H <sub>26</sub> O	Hexyl ether 891, 1294	C <sub>14</sub> H <sub>30</sub> O <sub>2</sub>	<u>x</u> -Tetradecyl alcohol 1662, 1667, 1669
C <sub>12</sub> H <sub>26</sub> O	2,6,8-Trimethyl-4-nonal B.p., 225.5 479, 1582, 1665, 1832	C <sub>15</sub> H <sub>10</sub> O <sub>2</sub> N <sub>2</sub>	2-(2,6,8-Trimethyl-4-nonyloxy)ethanol 500
C <sub>12</sub> H <sub>26</sub> O <sub>2</sub>	1,1-Diethoxy-2-ethylhexane B.p., 207.8 480	C <sub>15</sub> H <sub>18</sub>	Di-p-isocyanatodiphenylmethane 1460 B.p., 192/5 mm.
C <sub>12</sub> H <sub>26</sub> O <sub>2</sub>	1,1-Diisopentoxyethane 481 B.p., 213.6	C <sub>15</sub> H <sub>28</sub> O <sub>4</sub>	Amylnaphthalene 1532
C <sub>12</sub> H <sub>26</sub> O <sub>2</sub>	3-Ethoxy-4-ethyloctanol 482 B.p., 249.2	C <sub>15</sub> H <sub>30</sub>	Dibutyl pimelate 501
C <sub>12</sub> H <sub>26</sub> O <sub>3</sub>	Bis(2-butoxyethyl)ether 483 B.p., 254.6	C <sub>15</sub> H <sub>32</sub> O	1-Pentadecene B.p., 183.7/217 mm. 1637
C <sub>12</sub> H <sub>26</sub> O <sub>3</sub>	1,1,3-Triethoxyhexane 484	C <sub>16</sub> H <sub>18</sub> O	2,8-Dimethyl-6-isobutyl-4-nonanol B.p., 265.4 502
C <sub>12</sub> H <sub>27</sub> ClSn	Tributyltin chloride B.p., 116/17 mm. 1205, 1625, 1902	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	Bis( $\alpha$ -methylbenzyl)ether 503 B.p., 286.7
C <sub>12</sub> H <sub>27</sub> N	Dihexylamine B.p., 239.8 485	C <sub>16</sub> H <sub>28</sub> O <sub>4</sub>	Dibutyl phthalate B.p., 238/50 mm. 1130
C <sub>12</sub> H <sub>27</sub> N	Tributylamine B.p., 213.9 486	C <sub>16</sub> H <sub>30</sub> O <sub>2</sub>	Bis(4-methylbenzyl)ether maleate 504
C <sub>12</sub> H <sub>27</sub> O <sub>4</sub> P	Tributyl phosphate 487	C <sub>16</sub> H <sub>30</sub> O <sub>2</sub>	Tridecyl acrylate 505
C <sub>13</sub> H <sub>10</sub>	Fluorene B.p., 294 1295, 1566, 1651, 1667, 1668	C <sub>16</sub> H <sub>31</sub> N	1,1'-Bis( $x$ -methylcyclohexyl)dimethylamine 506
C <sub>13</sub> H <sub>24</sub> O <sub>2</sub>	Decyl acrylate (isomers) 488	C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	2-Ethylhexyl 2-ethylhexanoate B.p., 280.4 507
C <sub>13</sub> H <sub>26</sub>	1-Tridecene B.p., 232.78 1454	C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	Palmitic acid 1671
C <sub>14</sub> H <sub>10</sub>	Anthracene B.p., 340 892	C <sub>16</sub> H <sub>34</sub>	Hexadecane 1533, 1666
C <sub>14</sub> H <sub>10</sub>	Phenanthrene B.p., 340 1296, 1567, 1652, 1669, 1670	C <sub>16</sub> H <sub>34</sub> O	Bis(2-ethylhexyl) ether B.p., 269.8 508, 893, 1106, 1298, 1632
C <sub>14</sub> H <sub>14</sub> O	Benzyl ether 1297, 1568	C <sub>16</sub> H <sub>35</sub> N	Bis(2-ethylhexyl)amine 509 B.p., 280.7
C <sub>14</sub> H <sub>22</sub> O	<u>o</u> -(Ethylhexyl)phenol 489 B.p., 297.0		
C <sub>14</sub> H <sub>23</sub> N	N-(Ethylhexyl)aniline 490		

Formula	Name and System Nos.	Formula	Name and System Nos.
C <sub>17</sub> H <sub>36</sub> O	3,9-Diethyl-6-tridecanol 510 B.p., 309	C <sub>20</sub> H <sub>36</sub> O <sub>4</sub>	Bis(2-ethylhexyl)fumarate 514
C <sub>17</sub> H <sub>36</sub> O	<u>x</u> -Heptadecyl alcohol 1663, 1668, 1670	C <sub>20</sub> H <sub>36</sub> O <sub>4</sub>	Bis(2-ethylhexyl)maleate 515
C <sub>18</sub> H <sub>24</sub> N <sub>2</sub>	Bis( $\alpha$ -methylbenzyl)ethyl- enediamine 511	C <sub>20</sub> H <sub>40</sub> O <sub>3</sub>	2-Ethylhexyl 3-(2-ethyl- hexyloxy)butyrate 516
C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	Oleic acid 1672	C <sub>20</sub> H <sub>42</sub> O	Decyl ether (isomers) 517
C <sub>18</sub> H <sub>34</sub> O <sub>3</sub>	Ricinoleic acid 1672	C <sub>20</sub> H <sub>42</sub> O	Eicosanol (isomers) 518
C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	Stearic acid 1671, 1673	C <sub>20</sub> H <sub>43</sub> N	Didecylamine (isomers) 519
C <sub>18</sub> H <sub>38</sub> O <sub>2</sub>	1,1-Bis(2-ethylhexyloxy) ethane 512	C <sub>21</sub> H <sub>38</sub> O <sub>3</sub>	Allyl 9,10-epoxystearate 520
C <sub>18</sub> H <sub>39</sub> NO	2-[Bis(2-ethylhexyl)amino] ethanol 513	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	Diocetyl phthalate 1664
C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>	Abietic acid 1674	C <sub>24</sub> H <sub>52</sub> O <sub>4</sub> Si	Tetra(2-ethylbutoxy)silane 521
		C <sub>31</sub> H <sub>58</sub> O <sub>6</sub>	Tri(2-ethylhexyl)-1,2,4- butanetricarboxylate 522

## Bibliography

1. Adelson and Evans, U. S. Patent 2,605,216 (1952).
2. Akers and Eubanks, Proc. Cryogenic Eng. Conf., 2nd, Boulder, 1957, p. 275; C.A. 52, 14267 (1958).
3. Albanesi, Pasquon, and Genoni, Chim. e ind. (Milan) 39, 814 (1957); C.A. 52, 3440 (1958).
4. Allen and Ellis, U. K. At. Energy Authority, IGR-R/CA, 216 (1957).
5. Alpert and Elving, Ind. Eng. Chem. 43, 1174, 1182 (1951).
6. Al'tshuler, Zviadadze, and Chizhikov, Zhur. Neorg. Khim. 2, 1581 (1957); C.A. 52, 7833 (1958).
7. Amer, Paxton, and Van Winkle, Ind. Eng. Chem. 48, 142 (1956).
8. Amick, Weiss, and Kirshenbaum, Ibid., 43, 969 (1951).
9. Ansul Chemical Co., Ansul Ethers, Chem. Prod. Bull.
10. Bachman and Simons, Ind. Eng. Chem. 44, 202 (1952).
11. Ballard and Van Winkle, Ibid., 45, 1803 (1953).
12. Banks and Musgrave, J. Chem. Soc. 1956, p. 4682; C.A. 51, 3216 (1957).
13. Barber and Cady, J. Am. Chem. Soc. 73, 4247 (1951).
14. Barr-David and Dodge, J. Chem. Eng. Data 4, 107 (1959).
15. Benning, U. S. Patent 2,641,579 (1953).
16. Bierlein, Univ. Microfilms (Ann Arbor, Mich.), No. 24,101; C.A. 52, 6909 (1958).
17. Bierlein and Kay, Ind. Eng. Chem. 45, 618 (1953).
18. Boublk and Kuchynka, Chem. Listy 50, 1181 (1956); C.A. 50, 16320 (1956); Collection Czechoslov. Chem. Commun. 21, 1634 (1956); C.A. 51, 11794 (1957).
19. Boublk and Kuchynka, Collection Czechoslov. Chem. Commun. 25, 579 (1960); C.A. 54, 16068 (1960).
20. Broich and Hunsmann, Ger. Patent 1,002,321 (1957); C.A. 53, 21663 (1959).
21. Brooks and Nixon, J. Am. Chem. Soc. 75, 480 (1953).
22. Brown and Smith, Australian J. Chem. 7, 264 (1954); 8, 62 (1955).
23. Ibid., 10, 423 (1957); C.A. 52, 3441 (1958).
24. Ibid., 12, 407 (1959); C.A. 54, 1003 (1960).
25. Ibid., 13, 30 (1960); C.A. 54, 10436 (1960).
26. Bruner and Darden, U. S. Patent 2,609,336 (1952).
27. Brzostowski, Malanowski, and Zieborak, Bull. acad. polon. sci., Classe III 7, 421 (1959); C.A. 54, 19067 (1960).
28. Burch and Leeds, Ind. Eng. Chem., Chem. & Eng. Data Ser. 2, 3 (1957).
29. Bures, Cano, and Wirth, J. Chem. Eng. Data 4, 199 (1959).
30. Burtle, Ind. Eng. Chem. 44, 1675 (1952).
31. Bushmakina and Kish, Zhur. Priklad. Khim. 30, 200 (1957); C.A. 51, 10989-90 (1957).
32. Butta, Chem. Listy 50, 1646 (1956); C.A. 51, 2349 (1957); Collection Czechoslov. Chem. Commun. 22, 1680 (1957); C.A. 52, 8708 (1958).
33. Byk and Sheherbak, Zhur. Fiz. Khim. 30, 56 (1956); C.A. 50, 10469 (1956).
34. Campbell and Hickman, J. Am. Chem. Soc. 75, 2879 (1953).
35. Canjar, Horni, and Rothfus, Ind. Eng. Chem. 48, 427 (1956).
36. Canjar and Loneragan, A.I.Ch.E. Journal 2, 280 (1956).
37. Carleton, Ind. Eng. Chem., Chem. & Eng. Data Ser. 1, 21 (1956).
38. Carswell and Morrill, Ind. Eng. Chem. 29, 1247 (1937).
39. Chabrier de la Saulniere, Ann. chim. 17, 353 (1942); C.A. 38, 3255 (1944).
40. Chaiyavech and Van Winkle, J. Chem. Eng. Data 4, 53 (1959).
41. Challis, U. S. Patent 2,691,624 (1954).
42. Chalov and Aleksandrova, Gidroliz. i Lesokhim. Prom. 10, 15 (1957); C.A. 51, 12585 (1957).
43. Chao, Univ. Microfilms (Ann Arbor, Mich.), No. 19076; C.A. 51, 9245 (1957).
44. Chao and Hougen, Chem. Eng. Sci. 7, 246 (1958); C.A. 52, 15219 (1958).
45. Choffe and Asselineau, Rev. inst. fran<sup>c</sup> p<sup>o</sup>tre et Ann. combustibles liquides 11, 948 (1956); C.A. 51, 3262 (1957).
46. Ibid., 12, 565 (1957); C.A. 51, 17383 (1957).
47. Choffe, Cliquet, and Meunier, Ibid., 15, 1051 (1960); C.A. 55, 8009 (1961).
48. Christian, J. Phys. Chem. 61, 1441 (1957).
49. Churchill, U. S. Patent 2,527,916 (1950).
50. Cines, Ibid., 2,692,227 (1954).
51. Ibid., 2,789,087 (1957).

52. Claxton, Physical & Azeotropic Data, Natl. Benzol & Allied Products Assoc. (1958).

53. Cole, *Ind. Eng. Chem., Chem. & Eng. Data Ser.* 3, 213 (1958).

54. Commercial Solvents Corp., *Tech. Data Sheet No. 23* (1954).

55. Commercial Solvents Corp., unpublished data.

56. Conti, Othmer, and Gilmont, *J. Chem. Eng. Data* 5, 301 (1960).

57. Cova, *Ibid.*, 5, 282 (1960).

58. Crawford, Edwards, and Lindsay, *J. Chem. Soc.* 1949, 1054; *C.A.* 43, 8835 (1949).

59. Crutzen, Jost, and Sieg, *Z. Elektrochem.* 61, 230 (1957); *C.A.* 51, 10214 (1957).

60. Curme and Johnson, "Glycols," *ACS Monograph 114*, Reinhold, New York, 1952.

61. Dakshinamurty and Rao, *J. Appl. Chem. (London)* 7, 654 (1957); *C.A.* 52, 6911 (1958).

62. Dakshinamurty and Rao, *J. Sci. Ind. Research (India)* 15 B, 118 (1956); *C.A.* 50, 11753 (1956).

63. *Ibid.*, 17B, 105 (1958); *C.A.* 52, 16851 (1958).

64. Dakshinamurty and Rao, *Trans. Indian Inst. Chem. Engrs.* 8, 57 (1955-6); *C.A.* 51, 14400 (1957).

65. Dakshinamurty, Rao, Acharya, and Rao, *Chem. Eng. Sci.* 9, 69 (1958); *C.A.* 53, 8727 (1959).

66. Dakshinamurty, Rao, Raghavacharya, and Rao, *J. Sci. Ind. Research (India)* 16B, 340 (1957); *C.A.* 52, 2485 (1958).

67. Davis and Evans, *J. Chem. Eng. Data* 5, 401 (1960).

68. Delzenne, *Ind. Eng. Chem., Chem. & Eng. Data Ser.* 3, 224 (1958).

69. Delzenne, *J. Chem. Eng. Data* 5, 413 (1960).

70. Desty and Fidler, *Ind. Eng. Chem.* 43, 905 (1951).

71. Din, *Inst. intern. froid, Commissions intern. Zurich* 1953, p. 17; *C.A.* 49, 5910 (1955).

72. Dobroserdov and Il'ino, *Zhur. Priklad. Khim.* 34, 386 (1961); *C.A.* 55, 13023 (1961).

73. Donald and Ridgeway, *Chem. Eng. Sci.* 5, 188 (1956).

74. Donald and Ridgeway, *J. Appl. Chem. (London)* 8, 403, 408 (1958); *C.A.* 53, 21109 (1959).

75. Donham, Univ. Microfilms (Ann Arbor, Mich.), *Mic.* 58-687; *C.A.* 52, 14267 (1958).

76. Dow Chemical Co., unpublished data.

77. Drake, Duvall, Jacobs, Thompson, and Sonnichsen, *J. Am. Chem. Soc.* 60, 73 (1958).

78. Drout, U. S. Patent 2,647,861 (1953).

79. Dunlap, Bedford, Woodbrey, and Furrow, *J. Am. Chem. Soc.* 81, 2927 (1959).

80. Dunn, U. S. Patent 2,524,899 (1950).

81. Du Pont, Polychemicals Dept., *Sales Bull.* (1959).

82. Du Pont, *New Products Bull.* No. 19.

83. Dykyj, Paulech, and Seprakova, *Chem. Zvesti* 14, 327 (1960); *C.A.* 54, 21908 (1960).

84. Eastman Chemical Products, Inc., unpublished data.

85. Ehrrett and Weber, *J. Chem. Eng. Data* 4, 142 (1959).

86. Eiseman, *J. Am. Chem. Soc.* 79, 6087 (1957).

87. Eliot, U. S. Patent 2,635,072 (1953).

88. Eliot and Weaver, *Ibid.*, 2,662,847 (1953).

89. Ellis, U. K. At. Energy Authority, Ind. Group Hdq. 5197 (1953); *C.A.* 53, 15681 (1959).

90. Ellis and Forest, *Ibid.*, IGR-TN/CA 457 (1957); *C.A.* 51, 9245 (1957).

91. Ellis and Johnson, *J. Inorg. & Nuclear Chem.* 6, 194, 199 (1958).

92. Ellis and Razavipour, *Chem. Eng. Sci.* 11, 99 (1959); *C.A.* 54, 10436 (1960).

93. England, U. S. Patent 2,802,028 (1957).

94. Faerber, *Ibid.*, 2,836,546 (1958).

95. Fahnoe, *Ibid.*, 2,527,358 (1950).

96. Farbenwerke Hoechst, unpublished data.

97. Fastovskii and Petrovskii, *Zhur. Fiz. Khim.* 31, 836 (1957); *C.A.* 52, 25 (1958).

98. Feldman and Orchin, *Ind. Eng. Chem.* 44, 2909 (1952).

99. Feldman and Orchin, U. S. Patent 2,581,398 (1952).

100. *Ibid.*, 2,590,096 (1952).

101. Fischer, Bingle, and Vogel, *J. Am. Chem. Soc.* 78, 902 (1956).

102. Fleischer, U. S. Patent 2,191,196 (1940).

103. Flom, Alpert, and Elving, *Ind. Eng. Chem.* 43, 1178 (1951).

104. Floyd, Univ. Microfilms (Ann Arbor, Mich.), No. 17,606; *C.A.* 51, 14352 (1957).

105. Forman, U. S. Patent 2,581,789 (1952).

106. Fowler, *J. Soc. Chem. Ind. (London)* 69, Suppl. 2, S65 (1950).

107. Fowler and Lim, *J. Appl. Chem. (London)* 6, 74 (1956); C.A. 53, 11924 (1959).

108. Fowler and Norris, *Ibid.*, 5, 266 (1955).

109. Free and Hutchison, *J. Chem. Eng. Data* 4, 193 (1959).

110. Fried, Pick, Hala, and Vilim, *Chem. Listy* 50, 1039 (1956); C.A. 50, 16320 (1956); *Collection Czechoslov. Chem. Commun.* 21, 1535 (1956); C.A. 51, 11794 (1957).

111. Galaska-Krajewska, *Bull. acad. polon. sci., Classe III* 6, 257 (1958); C.A. 52, 15993 (1958).

112. Garber and Rabukhina, *Zhur. Priklad. Khim.* 33, 2782 (1960); C.A. 55, 9015 (1961).

113. Garber, Zelenevskaya, and Rabukhina, *Ibid.*, 33, 694 (1960); C.A. 54, 20919 (1960).

114. Garner and Hall, *J. Inst. Petrol.* 41, 1, 18, 24 (1955).

115. Gause and Ernsberger, *Ind. Eng. Chem., Chem. & Eng. Data Ser.* 2, 28 (1957).

116. Gaziev, Zel'venskii, and Shalygin, *Zhur. Priklad. Khim.* 31, 1220 (1958); C.A. 52, 19361 (1958).

117. Gelperin and Novikova, *J. Appl. Chem. U.S.S.R.* 26, 841 (1953).

118. Gel'perin and Zelenetskii, *Zhur. Fiz. Khim.* 34, 2230 (1960); C.A. 55, 13022 (1961).

119. Goldberg and Zinov'ev, *Zhur. Priklad. Khim.* 33, 1913 (1960); C.A. 54, 23680 (1960).

120. Gondzik and Stateczny, *Przemysl Chem.* 9, 132 (1953); C.A. 48, 11759 (1954).

121. Gorodetskii, Morachevski, and Olevskii, *Vestnik Leningrad Univ.* 14, No. 22, Ser. Fiz. i Khim. No. 4, 136 (1959); C.A. 54, 8255 (1960).

122. Gorodetskii and Olevskii, *Vestnik Leningrad Univ.* 15, No. 16, Ser. Fiz. i Khim. No. 3, 102 (1960); C.A. 55, 1162 (1961).

123. Grekel, U. S. Patent 2,564,200 (1951).

124. Gropsianu, Kyri, and Gropsianu, *Acad. rep. populare Romîne, Baza cercetării științ. Timisoara, Studii cercetării științ., Ser., științe chim.* 4, 73 (1957); C.A. 53, 19501 (1959); Gropsianu and Murarescu, *Ibid.*, 3, 81 (1956); C.A. 51, 16028 (1957).

125. Hack and Van Winkle, *Ind. Eng. Chem.* 46, 2392 (1954).

126. Hahn, *Brennstoff Chemie* 35, 105 (1954).

127. Hamilton and Cogdell, U. S. Patent 2,831,902 (1958); C.A. 52, 14649 (1958).

128. Hanson, Hogan, Nelson, and Cines, *Ind. Eng. Chem.* 44, 604 (1952).

129. Hanson, Hogan, Ruehlen, and Cines, *Chem. Eng. Prog. Symposium Ser.* 49, No. 6, 37 (1953).

130. Harper and Moore, *Ind. Eng. Chem.* 49, 411 (1957).

131. Harrison and Somers, U. S. Patent 2,704,271 (1955).

132. Haughton, *Chem. Eng. Sci.* 4, 97 (1955).

133. Heitz, *Am. J. Enol. Viticult.* 11, 19 (1960); C.A. 54, 18007 (1960).

134. Hellwig and Van Winkle, *Ind. Eng. Chem.* 45, 624 (1953).

135. Hill and Van Winkle, *Ibid.*, 44, 205, 208 (1952).

136. Hirata, Hirose, and Yanagawa, *Kagaku Kogaku* 24, 561 (1960); C.A. 54, 21908 (1960).

137. Hogan, Nelson, Hanson, and Cines, *Ind. Eng. Chem.* 47, 2210 (1955).

138. Hollo, Ember, Lengyel, and Wieg, *Acta Chim. Acad. Sci. Hung.* 13, 307 (1957); C.A. 52, 17862 (1958).

139. Hollo and Lengyel, *Fette, Seifen, Anstrichmittel* 62, 913 (1960); C.A. 55, 8009 (1961).

140. Hollo and Lengyel, *Ind. Eng. Chem.* 51, 957 (1959).

141. Hollo and Lengyel, *Periodica Polytech.* 2, 173 (1958); C.A. 53, 5799 (1959).

142. Hori, *J. Agr. Chem. Soc. Japan* 18, 155 (1942); C.A. 45, 4202 (1951).

143. Horyna, *Collection Czechoslov. Chem. Commun.* 24, 3253 (1959); C.A. 54, 10436 (1960).

144. Houser and Van Winkle, *Ind. Eng. Chem., Chem. & Eng. Data Ser.* 2, 12 (1957).

145. Hunt, U. S. Patent 2,862,856 (1958).

146. Ibl, Dandliker, and Trumpler, *Chem. Eng. Sci.* 5, 193 (1956).

147. Imperial Chemical Industries Ltd., unpublished data.

148. Ishiguro, Yagyu, Ikushima, and Nakazawa, *J. Pharm. Soc. Japan* 75, 434 (1955); C.A. 50, 2587 (1956).

149. Ishiguro, Yagyu, and Takagi, *Yakugaku Zasshi* 79, 1138 (1959); C.A. 54, 2857 (1960).

150. *Ibid.*, 80, 30 (1960); C.A. 54, 11617 (1960).

151. Jakubicek, *Collection Czechoslov. Chem. Commun.* 26, 300 (1961); C.A. 55, 10026 (1961).

152. Jakubicek, Fried, and Vahala, *Chem. Listy* 51, 1422 (1957); C.A. 51, 17382 (1957).

153. Johannessen, U. S. Patent 2,656,389 (1953).

154. Johnson, Ward, and Furter, Can. J. Technol. 34, 514 (1957); C.A. 51, 14351 (1957).

155. Jordan, Univ. Microfilms (Ann Arbor, Mich.), Mic. 60-1188; C.A. 54, 14848 (1960).

156. Junghaus, J. prakt. Chem. [4] 2, 265 (1955); C.A. 54, 17024 (1960).

157. Karr, Scheibel, Bowes, and Othmer, Ind. Eng. Chem. 43, 961 (1951).

158. Katz and Newman, Ibid., 48, 137 (1956).

159. Kay and Brice, Ibid., 45, 615 (1953).

160. Kay and Fisch, A.I.Ch.E. Journal 4, 293 (1958).

161. Kay and Rambousek, Ind. Eng. Chem. 45, 221 (1953).

162. Kay and Warzel, A.I.Ch.E. Journal 4, 296 (1958).

163. Keistler and Van Winkle, Ind. Eng. Chem. 44, 622 (1952).

164. Kenttamaa, Lindberg, and Nissema, Suomen Kemistilehti 33B, 189 (1960); C.A. 55, 8009 (1961).

165. Kharakhorin, Inzhener-Fiz. Zhur. Akad. Nauk Beloruss. S.S.R. 2, 55 (1959); C.A. 54, 1003 (1960).

166. Kibler and Gusakova, Gidroliz. i Lesokhim. Prom. 12, 14 (1959); C.A. 53, 12776 (1959).

167. Kieffer and Grabiell, Ind. Eng. Chem. 43, 973 (1951).

168. Kieffer and Holroyd, Ibid., 47, 457 (1955).

169. King, Kuck, and Frampton, J. Am. Oil Chemists' Assoc. 38, 19 (1961).

170. Kirk-Othmer, "Encyclopedia of Chemical Technology," Vol. III, p. 794, Interscience, New York, 1949.

171. Kirsanova and Byk, Zhur. Priklad. Khim. 31, 1610 (1958); C.A. 53, 2721 (1959).

172. Ibid., 33, 2784 (1960); C.A. 55, 9017 (1961).

173. Kobayashi, et al., Jap. Patent 3066 (1952); C.A. 48, 2772 (1954).

174. Kogan, Fridman, and Deizenrot, Zhur. Priklad. Khim. 30, 1339 (1957); C.A. 52, 2486 (1958).

175. Kogan, Fridman, and Romanova, Zhur. Fiz. Khim. 33, 1521 (1959); C.A. 54, 15993 (1960).

176. Kogan and Tolstova, Ibid., 33, 276 (1959); C.A. 53, 20995 (1959).

177. Kohoutek, Collection Czechoslov. Chem. Commun. 25, 288 (1960); C.A. 54, 16068 (1960).

178. Kominek-Szczepanik, Roczniki Chem. 33, 553 (1959); C.A. 53, 21723 (1959).

179. Korchemskaya, et al., Zhur. Priklad. Khim. 33, 2703 (1960); C.A. 55, 11006 (1961).

180. Kovalenko and Balandina, Uchenye Zapiski Rostov-a-Donu Univ. 41, 39 (1958); C.A. 55, 6118 (1961).

181. Kramer and Reid, J. Am. Chem. Soc. 43, 880 (1921).

182. Krichevskii, Khazanova, and Linshits, Zhur. Fiz. Khim. 31, 2711 (1957); C.A. 52, 8660 (1958).

183. Krishnamurty and Rao, J. Sci. Ind. Research (India) 14B, 55 (1955); C.A. 49, 11379 (1955).

184. Kurmanadharao, J. Sci. Ind. Research (India) 15B, 682 (1956); C.A. 51, 14352 (1957).

185. Kurmanadharao, Krishnamurty, and Venkataraao, Rec. trav. chim. 76, 769 (1957).

186. Kurmanadharao and Rao, Chem. Eng. Sci. 7, 97 (1957); C.A. 52, 15218 (1958).

187. Kurtyka, Bull. acad. polon. sci. Classe III 2, 291 (1954); 3, 47 (1955).

188. Ibid., 4, 49 (1956); C.A. 51, 1676 (1957).

189. Kurtyka and Trabczynski, Roczniki Chem. 32, 623 (1958); C.A. 53, 2077 (1959).

190. Kyle and Tetlow, J. Chem. Eng. Data 5, 275 (1960).

191. Landwehr, Yerazunis, and Steinhauser, Chem. & Eng. Data Ser. 3, 231 (1958).

192. Lang, Z. physik. Chem. (Leipzig) 196, 278 (1950); C.A. 45, 10025 (1951).

193. Langer, Connell, and Wender, J. Org. Chem. 23, 50 (1958).

194. Latimer, A.I.Ch.E. Journal 3, 75 (1957).

195. Lelakowska, Bull. acad. polon. sci. Classe III 6, 645 (1958); C.A. 53, 6719 (1959).

196. Ledwock, Farbe u. Lack 62, 462 (1956).

197. Lessells and Corrigan, Ind. Eng. Chem., Chem. & Eng. Data Ser. 3, 43 (1958).

198. Lewis, U. S. Patent 2,641,580 (1953).

199. Lloyd and Wyatt, J. Chem. Soc. 1955, p. 2248.

200. Long, Martin, and Vogel, Chem. & Eng. Data Ser. 3, 28 (1958).

201. Lorette and Howard, J. Org. Chem. 25, 1814 (1960).

202. Lu, Can. J. Technol. 34, 468 (1957); C.A. 55, 8009 (1961).

203. Lumatainen, U. S. At. Energy Comm. ANL 6003 (1959); C.A. 54, 2858 (1960).

204. Lyvers and Van Winkle, Chem. & Eng. Data Ser. 3, 60 (1958).

205. Macarron, Rev. real acad. cienc. exact. fis. y nat. (Madrid) 53, 357, 607 (1959); C.A. 54, 16969 (1960).

206. MacWood and Paridon, J. Phys. Chem. 63, 1302 (1959).

207. Mair, Anal. Chem. 28, 52 (1956).

208. Malesinska and Malesinski, Bull Acad. polon. sci., Ser. sci. chim. 8, 191 (1960); C.A. 55, 11047 (1961).

209. Malesinski, Bull. acad. polon. sci., Classe III 4, 365 (1956); C.A. 51, 3217 (1957).

210. Maltese and Valentini, Chim. e ind. (Milan) 40, 548 (1958); C.A. 53, 798 (1959).

211. Malusov, Malafeev, and Zhavoronkov, Zhur. Fiz. Khim. 31, 699 (1957); C.A. 52, 25 (1958).

212. Markowska-Majewska, Bull. acad. polon. sci. Classe III 2, 291 (1954); C.A. 49, 2804 (1955).

213. Marks and Wingard, J. Chem. Eng. Data 5, 416 (1960).

214. Marschner and Burney, Ind. Eng. Chem. 44, 1406 (1952).

215. McCormack, Walkup, and Rush, J. Phys. Chem. 60, 826 (1956).

216. Melnikov and Tsirlin, J. Appl. Chem. U.S.S.R. 29, 1573; C.A. 51, 17377 (1957).

217. Melnikov and Tsirlin, Zhur. Fiz. Khim. 30, 2290 (1956); C.A. 51, 9245 (1957).

218. Metyshev, Trudy Tekhnol. Inst. Pishchevoi Prom. im. A. I. Mikoyana 15, 80 (1955); C.A. 51, 14398 (1957).

219. Metzger and Disteldorf, J. chim. phys. 50, 156 (1953).

220. Miller, Ind. Eng. Chem., Chem. & Eng. Data Ser. 3, 239 (1958).

221. Miller, J. Phys. Chem. 62, 512 (1958).

222. Minnesota Mining & Manufacturing Co., unpublished data.

223. Morachevskii and Komarova, Vestnik Leningrad. Univ. 12, No. 4, Ser. Fiz. i. Khim. No. 1, 118 (1957); C.A. 51, 11832 (1957).

224. Morachevskii and Leont'ev, Zhur. Fiz. Khim. 34, 2347 (1960); C.A. 55, 13023 (1961).

225. Morris and Snider, U. S. Patent 2,368,597 (1945).

226. Mukherjee and Grunwald, J. Phys. Chem. 62, 1311 (1958).

227. Murti and Van Winkle, A.I.Ch.E. Journal 3, 517 (1957).

228. Murti and Van Winkle, Ind. Eng. Chem., Chem. & Eng. Data Ser. 3, 72 (1958).

229. Myers, Ind. Eng. Chem. 47, 2215 (1955).

230. Ibid., 48, 1104 (1956).

231. Myers, Petrol. Refiner 36, 175 (1957).

232. Narinski, Kislorod 10, 9 (1957); C.A. 52, 13348 (1958).

233. Natradze and Novikova, Zhur. Fiz. Khim. 31, 227 (1957); C.A. 51, 15236 (1957).

234. Nelson, U. S. Patent 2,786,804 (1957); C.A. 51, 11704 (1957).

235. Ibid., 2,839,452 (1958); C.A. 52, 15890 (1958).

236. Ibid., 2,922,753 (1960).

237. Newcome and Cady, J. Am. Chem. Soc. 78, 5216 (1956).

238. Newman, Bull. inst. intern. froid. Annexe 1955, p. 390; C.A. 53, 15681 (1959).

239. Newman, Univ. Microfilms (Ann Arbor, Mich.) No. 16,290; C.A. 50, 12577 (1956).

240. Nielsen and Weber, J. Chem. Eng. Data 4, 145 (1959).

241. Nixon, U. S. Patent 2,604,439 (1952).

242. Novak, Matous, and Pick, Collection Czechoslov. Chem. Communs. 25, 2405 (1960); C.A. 55, 3170 (1961).

243. Nycander and Gabrielson, Acta Chem. Scand. 8, 1530 (1954); C.A. 49, 6678 (1955).

244. Oakeson and Weber, J. Chem. Eng. Data 5, 279 (1960).

245. Ocon and Espantoso, Anales real. soc. espan. fis. y quím. (Madrid) 54B, 401 (1958); C.A. 53, 1879 (1959).

246. Ocon, Espantoso, and Mato, Publs. inst. quím. fis. "Antonio de Gregorio Rocasolano" 10, 214 (1956); C.A. 51, 16028 (1957).

247. Ogawa, Kishida, and Kuyama, Kagaku Kogaku 22, 151 (1958); C.A. 52, 8661 (1958).

248. Ogorodnikov, Kogan, and Nemtsov, Zhur. Priklad. Khim. 33, 1599 (1960); C.A. 54, 21909 (1960).

249. Ogorodnikov, Kogan, and Nemtsov, J. Appl. Chem. U.S.S.R. 33, 2650 (1960); C.A. 55, 9017 (1961).

250. Olevskii and Golubev, Trudy Gosudarst. Nauk 1957, 42, 58; C.A. 53, 21107 (1958).

251. Orr and Coates, Ind. Eng. Chem. 52, 27 (1960).

252. Orszagh, Lelakowska, and Beldowicz, Bull. acad. polon. sci. Classe III 6, 419 (1958); C.A. 52, 19415 (1958).

253. Orszagh, Lelakowska, and Radecki, Ibid., 6, 605 (1958); C.A. 53, 6719 (1959).

254. Othmer, Chudgar, and Levy, Ind. Eng. Chem. 44, 1872 (1952).

255. Padgett, U. S. Patent 2,531,361 (1950).

256. Palazzo, Univ. Microfilms (Ann Arbor, Mich.) Mic. 58-1354; C.A. 52, 13350 (1958).

257. Papousek and Smekal, Chem. Listy 52, 542 (1958); C.A. 52, 19391 (1958); Collection Czechoslov. Chem. Communs. 24, 2031 (1957).

258. Paquot and Perron, Bull. soc. chim. France 1957, p. 529; C.A. 51, 10156 (1957).

259. Patton, U. S. Patent 2,940,973 (1960).

260. Pennington, Ind. Eng. Chem. 44, 2397 (1952).

261. Pennington, private communication.

262. Peppel, Ind. Eng. Chem. 50, 767 (1958).

263. Perugini, Chim. e ind. (Milan) 39, 445 (1957); C.A. 51, 16028 (1957).

264. Pick, Hala, and Fried, Chem. Listy 52, 561 (1958); C.A. 52, 19393 (1958); Collection Czechoslov. Chem. Commun. 24, 1589 (1959).

265. Prausnitz and Targovnik, Chem. & Eng. Data Ser. 3, 234 (1958).

266. Politziner, Ibid., 2, 16 (1957).

267. Price and Hickman, Proc. West Va. Acad. Sci. 22, 69 (1952).

268. Price and Kobayashi, J. Chem. Eng. Data 4, 40 (1959).

269. Prill, U. S. Patent 2,599,482 (1952).

270. Pryanishkov and Genin, J. Appl. Chem. U.S.S.R. 13, 140 (1940).

271. Qozati and Van Winkle, J. Chem. Eng. Data 5, 269 (1960).

272. Quintanilla, Riv. quím. ing. quím. Monterrey 2, 23 (1956); C.A. 51, 12585 (1957).

273. Rabe, Univ. Microfilms (Ann Arbor, Mich.), Mic. 58-1920; C.A. 52, 16853 (1958).

274. Rao, Rao, and Rao, J. Appl. Chem. (London) 7, 666 (1957); C.A. 52, 6909 (1958).

275. Rao, Sarma, Swami, and Rao, J. Sci. Ind. Research (India) 16B, 4 (1957); C.A. 51, 10196 (1957).

276. Rao, Swami, and Rao, A.I.Ch.E. Journal 3, 191 (1957).

277. Rao, Swami, and Rao, J. Sci. Ind. Research (India) 16B, 233 (1957); C.A. 51, 17301 (1957).

278. Ibid., p. 294; C.A. 52, 3440 (1958).

279. Ray, U. S. Patent 2,623,072 (1952).

280. Reed, Ibid., 2,511,993 (1950).

281. Reed, Univ. Microfilms (Ann Arbor, Mich.) No. 5338; C.A. 47, 11859 (1953).

282. Reed and Pennington, Modern Refrig. 53, 123 (1950).

283. Riddle, "Monomeric Acrylic Esters," p. 9, Reinhold, New York, 1954.

284. Ridley and Ridley, Brit. Patent 795,866 (1958); C.A. 53, 1154 (1959).

285. Rius, Otero, and Macarron, Chem. Eng. Sci. 10, 105 (1959); C.A. 53, 19501 (1959).

286. Rock and Shroder, Z. physik. Chem. (Frankfurt) [N.S.]11, 47 (1957).

287. Rohm and Haas, Tech. Data Sheet SP-148 (1958).

288. Rohrback and Cady, J. Am. Chem. Soc. 73, 4250 (1951).

289. Rose, Acciarri, and Williams, Chem. & Eng. Data Ser. 3, 210 (1958).

290. Rose, Papahronis, and Williams, Ibid., 3, 216 (1958).

291. Rossini, Mair, and Streiff, "Hydrocarbons from Petroleum," ACS Monograph 121, p. 89, Reinhold, New York, 1953.

292. Rowlinson, U. K. At. Energy Authority, Ind. Group R & DB(CA)TN-96D (1959); C.A. 53, 21114 (1959).

293. Rowlinson and Sutton, Proc. Roy. Soc. London A229, 396 (1955).

294. Rudakov and Kalinovskaya, Gidroliz i. Lesokhim. Prom. 10, 8 (1957); C.A. 51, 10989 (1957).

295. Ruhoff and Reid, J. Am. Chem. Soc. 59, 401 (1937).

296. Satapathy, Rao, Anjaneyulu, and Rao, J. Appl. Chem. (London) 6, 261 (1956); C.A. 51, 1677 (1957).

297. Schneider, Z. physik. Chem. (Frankfurt) [N.S.] 27, 171 (1961); C.A. 55, 13022 (1961).

298. Seba, J. Chem. Soc. 1951, p. 1975.

299. Sense, Stone, and Filbert, U. S. At. Energy Comm. BMI-1186 (1957); C.A. 51, 15236 (1957).

300. Seryakov, Vaks, and Sidorina, Zhur. Obshchey Khim. 30, 2130 (1960); C.A. 55, 8009 (1961).

301. Shair and Schurig, Ind. Eng. Chem. 43, 1624 (1951).

302. Shakhpuronov, et al., Zhur. Priklad. Khim. 33, 2699 (1960); C.A. 55, 11006 (1961).

303. Shcherbak, Byk, and Aerov, Ibid., 28, 1120 (1955); C.A. 50, 639 (1956).

304. Sinor and Weber, J. Chem. Eng. Data 5, 243 (1960).

305. Sizmann, Angew. Chem. 71, 243 (1959); C.A. 53, 15425 (1959).

306. Smirnova, Vestnik Leningrad Univ. 14, 80 (1959); C.A. 54, 8194 (1960).

307. Smirnova and Morachevskii, Zhur. Fiz. Khim. 34, 2546 (1960); C.A. 55, 6117 (1961).

308. Smirnova, Morachevskii, and Storonkin, Vestnik Leningrad Univ. 14, 70 (1959); C.A. 54, 9475 (1960).

309. Smit and Ruyter, Rec. trav. chim. 79, 1244 (1960); C.A. 55, 8008 (1961).

310. Smith and LaBonte, Ind. Eng. Chem. 44, 2740 (1952).

311. Spicer and Kruger, J. Am. Chem. Soc. 72, 1855 (1950).

312. Spicer and Meyer, Ibid., 73, 934 (1951).  
 313. Spicer and Page, Ibid., 75, 3603 (1953).  
 314. Steitz, U. S. Patent 2,552,911 (1951).  
 315. Storonkin and Markuzin, Vestnik Leningrad Univ., 13, 100 (1958); C.A. 52, 12493 (1958).  
 316. Storonkin and Morachevskii, Zhur. Fiz. Khim. 31, 42 (1957); C.A. 51, 15236 (1957).  
 317. Storonkin, Morachevskii, and Belousov, Vestnik Leningrad Univ. 13, 94 (1958); C.A. 52, 17863 (1958).  
 318. Studenberg and Thomas, Proc. S. Dakota Acad. Sci. 36, 167 (1957); C.A. 52, 15992 (1958).  
 319. Susarev, Zhur. Priklad. Khim. 34, 412 (1961); C.A. 55, 13023 (1961).  
 320. Swami and Rao, J. Sci. Ind. Research (India) 18B, 11 (1959); C.A. 53, 16628 (1959).  
 321. Swami, Rao, and Rao, J. Sci. Ind. Research (India) 15B, 550 (1956); C.A. 51, 6252 (1957); Trans. Indian Inst. Chem. Engrs. 9, 47 (1956-7); C.A. 53, 14622 (1959).  
 322. Swietoslawski, Bull. acad. polon. sci., Classe III 7, 13 (1959); C.A. 53, 19501 (1959).  
 323. Swietoslawski and Kreglewski, Ibid., 2, 77 (1954).  
 324. Swietoslawski and Malesinski, Ibid., 4, 159 (1956).  
 325. Swietoslawski and Zieborak, Bull. acad. polon. sci., Classe sci. math. et nat. Ser. A 1950, pp. 9, 13; C.A. 46, 410 (1952).  
 326. Swietoslawski, Zieborak, and Galska-Krajewska, Bull. acad. polon. sci., Classe III 7, 43 (1959); C.A. 54, 16068 (1960).  
 327. Swietoslawski and Zielenkiewicz, Bull. acad. polon. sci. 6, 111 (1958); C.A. 52, 15169 (1958).  
 328. Szapiro, Zeszyty Nauk Politech. Lodz. Chem. 7, 3 (1958); C.A. 52, 19475 (1958).  
 329. Tapp and Montagna, U. S. Patent 2,806,884 (1957).  
 330. Terry, Kepner, and Webb, J. Chem. Eng. Data 5, 403 (1960).  
 331. Thornton and Garner, J. Appl. Chem. (London) 1, S61, S68 (1951).  
 332. Trabczynski, Bull. acad. polon. sci., Classe III 6, 269 (1958); C.A. 52, 15993 (1958).  
 333. Tumova, Prenosil, and Pinkava, Chem. průmysl 8, 585 (1958); C.A. 54, 12702 (1960).  
 334. Union Carbide Chemicals Co., unpublished data.  
 335. Union Carbide Chemicals Co., "Glycols" (1958); "Alcohols" (1961).  
 336. Union Carbide Chemicals Co., Tech. Inform. Bull. (July 1959).  
 337. Urbancova, Chem. zvesti 13, 43 (1959); C.A. 53, 14621 (1959).  
 338. Vdovenko and Kovaleva, Zhur. Priklad. Khim. 31, 89 (1958); C.A. 52, 8661 (1958).  
 339. Wagner and Weber, Ind. Eng. Chem., Chem. & Eng. Data Ser. 3, 220 (1958).  
 340. Wang, Proc. Cryogenic Eng. Conf. 2nd, Boulder, 1957, p. 294; C.A. 52, 14267 (1958).  
 341. Watanabe and Conlon, U. S. Patent 2,760,990 (1956); C.A. 51, 3654 (1957).  
 342. Weber, Ind. Eng. Chem. 48, 134 (1956).  
 343. Weck and Hunt, Ibid., 46, 2521 (1954).  
 344. Wehe and Coates, A.I.Ch.E. Journal 1, 241 (1955).  
 345. Weismann and Wood, J. Chem. Phys. 32, 1153 (1960).  
 346. Whipple, Ind. Eng. Chem. 44, 1664 (1952).  
 347. Wilson and Simons, Ibid., 44, 2214 (1952).  
 348. Wingard and Durant, J. Alabama Acad. Sci. 27, 11 (1955); C.A. 50, 10469 (1956).  
 349. Wingard, Durant, Tubbs, and Brown, Ind. Eng. Chem. 47, 1757 (1955).  
 350. Wingard and Piazza, Alabama Polytech. Inst. Eng. Expt. Sta. Bull. No. 32 (1958); C.A. 53, 12776 (1959).  
 351. Wyandotte Chemical Corp., Market Development Property Sheet (Feb. 25, 1955).  
 352. Yamamoto and Maruyama, Kagaku Kogaku 23, 635 (1959); C.A. 54, 1004 (1960).  
 353. Yates and Kelly, U. S. Patent 2,752,295 (1956).  
 354. Yen and Reed, J. Chem. Eng. Data 4, 102 (1959).  
 355. Zieborak, Bull. acad. polon. sci., Classe III 3, 531 (1955).  
 356. Ibid., 6, 443, 449 (1958); C.A. 52, 19392 (1958).  
 357. Zieborak, Bull. intern. polon. sci., Classe sci., math., et nat. Ser. A 1950, p. 15; C.A. 46, 410 (1952).  
 358. Zieborak and Brzostowski, Bull. acad. polon. sci., Classe III 5, 309 (1957); C.A. 51, 14399 (1957).  
 359. Ibid., 6, 169 (1958); C.A. 52, 13349 (1958).

360. Zieborak, Brzostowski, and Kaminski, Ibid., 6, 371 (1958); C.A. 52, 19393 (1958).

361. Zieborak and Galska, Ibid., 3, 383 (1955); C.A. 50, 9080 (1956).

362. Zieborak and Galska-Krajewska, Ibid., 6, 763 (1958); C.A. 53, 12777 (1959).

363. Ibid., 7, 253 (1959); C.A. 54, 16068 (1960).

364. Zieborak, Kaczorowana-Badyoczek, and Maczynska, Roczniki Chem. 29, 783 (1955); C.A. 50, 6119 (1956).

365. Zieborak, Maczynska, and Maczynski, Ibid., 32, 85 (1958); C.A. 52, 12493 (1958).

366. Ibid., p. 295; C.A. 52, 17862 (1958).

367. Zieborak and Markowska-Majewska, Bull. acad. polon. sci., Classe III 2, 341 (1954).

368. Zieborak and Olszewski, Ibid., 4, 823 (1956); C.A. 51, 7789 (1957).

369. Zieborak and Wyrzykowska-Stankiewicz, Ibid., 6, 377 (1958); C.A. 52, 19392 (1958).

370. Ibid., p. 517; C.A. 53, 3875 (1959).

371. Ibid., 8, 137 (1960); C.A. 55, 11047 (1961).

372. Ibid., 7, 247 (1959); C.A. 54, 16068 (1960).

373. Zieborak and Zieborak, Ibid., 2, 287 (1954); C.A. 49, 2803 (1955).

374. Zilberman, J. Appl. Chem. U.S.S.R. 26, 809 (1954).

Editorial Library  
American Chemical Society